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1 UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA	1 A P P E A R A N C E S: Continued
2	2 In attendance:
3	3 DAVID W CLOUGH, PhD
4 MORPHOSYS AG, a German Corporation )	4 KATTEN MUCHIN ZAVIS ROSENMAN
5 Plaintiff, )	5 525 West Monroe Street
6 vs. ) Case No.	6 Suite 1600
7 CAMBRIDGE ANTIBODY TECHNOLOGY )	7 Chicago
8 LIMITED, an English company )	8 Illinois 60661-3693
9 Defendant. )	9 SEAN M WALTON ESQ
10	10 MEWBURN ELLIS
11 HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER	11 VIDEOPHOTOGRAPHER:
12 VIDEOTAPED DEPOSITION UPON ORAL EXAMINATION	12 MS JOOLS VINER
13 OF	13
14 DR GREGORY PAUL WINTER Continued	14
15	15
16	16
17 On Monday, April 29, 2002	17
18 Commencing at 9.10 am	18
19	19
20 Taken at:	20
21 Crowne Plaza Hotel	21
22 Downing Street	22
23 Cambridge	23
24 Cambridgeshire CB2 3DT, England	24
25 Reported by: Thelma Harries, MBIVR, ACR	25

  

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4 One East Main Street	4 Examination: Page No:
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6 Wisconsin 53703	6 -----
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1 9.10 am

2 VIDEOGRAPHER: Here begins videotape  
3 number 1 in the deposition of Dr Greg Winter in the  
4 matter of MorphoSys AG, a German corporation versus  
5 Cambridge Antibody Technology Limited, an English  
6 company, in the United States District Court in the  
7 District of Columbia, case number 1:00CV00146(JR).

8 Today's date is 29th April 2002.

9 The time on the video monitor is 8.10. I  
10 apologise; I obviously haven't changed the time  
11 since British summer time. I apologise for that.

12 The video operator today is Jools  
13 Viner and this deposition is taking place at the  
14 Crowne Plaza Hotel, Cambridge, England.

15 Counsel, please voice identify  
16 yourselves and state whom you represent.

17 MR SKILTON: Yes. For the  
18 plaintiff, MorphoSys, John Skilton. And with me  
19 today is Colin Sandercock, who is not in the room  
20 but soon will be, Michelle Umberger and Dr Bernhard  
21 Virnekas.

22 MR VEZEAU: On behalf of the  
23 witness, Dr Winter, and Cambridge Antibody  
24 Technology, my name is Tim Vezeau. With me are my  
25 colleagues Jane Choi and Dr Clough of Katten Muchin

1 CM040555 through CM040623.

2 Those are the documents we've  
3 received, and my question is: Are there other  
4 documents which will be produced in the course of  
5 this week that have not yet been produced,  
6 Mr Vezeau?

7 MR VEZEAU: As far as I know, you've  
8 received all the documents that will be produced.  
9 Of course, something may come up and we'll deal  
10 with it then but, so far as I know, you have what  
11 you're going to get.

12 MR SKILTON: Although Mr Vezeau  
13 noted his presence, I note the presence in the room  
14 of attorney Sean Walton, who will be a witness in  
15 the course of these proceedings in England, and the  
16 record should note my objection to his presence.

17 MR VEZEAU: And the record should  
18 also note that, during the course of various  
19 depositions in this case, certainly witnesses have  
20 sat in on depositions who will be witnesses in this  
21 proceeding, including Dr Virnekas who happens to be  
22 here today.

1 Zavis Rosenman, and Sean Walton of Mewburn Ellis.

2 VIDEOGRAPHER: Thank you. The court  
3 reporter today is Thelma Harries. Would the  
4 reporter please swear in the witness?

5 (Witness sworn)

6 MR SKILTON: Good morning,  
7 Dr Winter.

8 Before we begin, let me make a  
9 record of what it is we've received by way of  
10 documents in the last week, and hope that it will  
11 conform with counsel's records.

12 On Friday we received documents  
13 bearing the Bates stamp number of CM040126 through  
14 CM040554.

15 By fax on Friday afternoon we  
16 received documents bearing the Bates stamp number  
17 9000908368 through 8388 and 9000908392 through  
18 8423.

19 Are those the documents that we have  
20 been served with up and to the point of this  
21 deposition?

22 MR VEZEAU: I assume you have been  
23 served with them. And beyond that I can't say.

24 MR SKILTON: And then this morning  
25 we received an additional set of documents of

1 DR GREGORY PAUL WINTER  
2 having been duly sworn  
3 was examined and did testify  
4 as follows:

5 EXAMINATION

6 BY MR SKILTON:

7 Q Would you state your full name for  
8 the record, please?

9 A Gregory Paul Winter.

10 Q Dr Winter, I'm going to attempt to  
11 ask clear questions. You are on a video record and  
12 if and to the extent you can take your time in  
13 answering the questions it will assist both the  
14 court reporter and the video record.

15 A So what do you mean by that? You'd  
16 like me to take my time in answering questions?

17 Q This may simply be a speech issue  
18 but, on occasion, the transcript is difficult to  
19 follow or the tape is. It may be simply a matter  
20 of speed of speech.

21 A Oh, I see. I'll try to take my  
22 time.

23 Q Thank you very much.

24 Dr Winter, when was the first time  
25 you met Dr George Smith?

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1 A I don't believe I've ever met George  
2 Smith.

3 Q When was the first time you became  
4 aware of the work of George Smith?

5 A I think it was in about 1985 or  
6 1986.

7 Q How did you become aware of his  
8 work?

9 A It was brought to my attention by a  
10 post-doctoral worker in my laboratory called  
11 Dr Phil Jennings.

12 Q Was there a particular reason why  
13 Dr Jennings brought this work to your attention at  
14 that time?

15 A There probably was, although I'm  
16 struggling to remember exactly why. He had been  
17 interested in the evolution of influenza virus  
18 haemagglutinin, and he was facing expressing the  
19 influenza virus haemagglutinin in some kind of  
20 expression system. And I think at that stage  
21 we had been thinking about expressing the  
22 haemagglutinin in eukaryotic cells, which would  
23 therefore give you properly glycosylated  
24 haemagglutinin.

25 But he came across this paper by

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1 George Smith and was very excited by it and  
2 suggested that we should try to express the  
3 influenza virus haemagglutinin in the way that  
4 Smith had done.

5 Q In particular, what do you mean by  
6 that in the way that Smith had done?

7 A To put it on the -- to try to  
8 display the haemagglutinin on the surface of  
9 bacterio phage.

10 Q Had you personally ever supervised  
11 a project before that time using bacterio phage?

12 A I had supervised a project, and  
13 I had also had extensive experience with bacterio  
14 phage myself, but for DNA sequencing. So we were  
15 not involved in expressing proteins on the surface  
16 of the bacterio phage; we were much more concerned  
17 with growing the bacterio phage as a source of  
18 single stranded DNA.

19 Q Did you take the time at that time  
20 to read the Smith article?

21 A I did read it.

22 Q Did you, by any chance, keep a copy  
23 of the article that you read?

24 A No.

25 Q What did you conclude as a result of

1 your reading of that article at that time?

2 A For the particular purpose that was  
3 suggested, I didn't think it was a good idea. In  
4 fact, I thought it was unlikely to work.

5 Q What was the purpose that was  
6 suggested that you did not think was likely to  
7 work?

8 A Well, that article describes the  
9 introduction of a peptide into part of the gene III  
10 protein of the filamentous bacterio phage. There  
11 was no evidence in the paper that that peptide was  
12 folded up. In fact, it seemed to me very unlikely  
13 that it would be.

14 The paper related to the use of --  
15 was using polyclonal anti-serum to detect the  
16 expression of the Smith peptide, and I was very  
17 doubtful that you could effectively insert one  
18 protein into the body of another protein and to  
19 have both proteins fold up.

20 Q Did you thereafter do any  
21 experimental work to determine whether or not this  
22 could be effected?

23 A No, I didn't.

24 Q When was the first time --

25 A I mean, at that time we didn't do

1 any. Obviously later on we did.

2 Q In fact, that was where I was going.

3 A Okay, yes.

4 Q When was the first time that any  
5 person, yourself included, in your lab made an  
6 effort to express or display on bacterio phage  
7 antibodies or antibody fragments?

8 A The first time we made an effort to  
9 display on bacterio phage was the work of John  
10 McCafferty.

11 Q Was this work, that you're now  
12 describing, work that was done under your  
13 supervision?

14 A The work was done under my  
15 supervision, but we have to be careful what that  
16 means.

17 It was my laboratory. John  
18 McCafferty was working in my laboratory, but it was  
19 a collaboration with David Chiswell of Cambridge  
20 Antibody Technology, a company we'd set up.

21 So this was -- this was a situation  
22 in which we were undertaking this work jointly, but  
23 I was responsible while he was in my laboratory for  
24 what he was doing.

25 Q Did you yourself do any of the

1 experimental work with respect to this project?  
 2 A I did not. Some years ago I was  
 3 attacked by a lunatic and I lost the use of my  
 4 right arm for experimental purposes.  
 5 Q Did you directly supervise any of  
 6 the experiments done in reference to this project?  
 7 A Yes, I did.  
 8 Q When was it in point of time that  
 9 John McCafferty first started his work in your  
 10 laboratory?  
 11 A I believe he started the work in  
 12 early January. I can't remember whether it was --  
 13 it was basically after the Christmas holidays and  
 14 when the lab came back, and I can't remember  
 15 exactly when that was, but it was very early  
 16 January.  
 17 Q Of what year?  
 18 A This must be 1990.  
 19 Q In preparing for today's deposition  
 20 did you examine any documents?  
 21 A Yes.  
 22 Q What documents did you look at,  
 23 Dr Winter?  
 24 A I looked at the patent. There was  
 25 the US specification. I also looked at the

1 that question as lacking a proper foundation.  
 2 MR SKILTON: I'll rephrase it.  
 3 BY MR SKILTON:  
 4 Q At any time have you prepared  
 5 a chronology of events relating to matters  
 6 concerning phage display of antibody work in your  
 7 laboratory?  
 8 A A chronology relating to the work  
 9 within my laboratory? Or the work of the field as  
 10 a whole?  
 11 Q Well, either or both?  
 12 A I don't recollect a chronology, but  
 13 it's not impossible that I have written something  
 14 at some point. But I think it's much more likely  
 15 to be a chronology relating to, for example, in the  
 16 preparation of a review for the field, more to do  
 17 with the relationship of the repertoire technology  
 18 and Richard Lerner's group.  
 19 Q Was this the technology that was  
 20 involved in the interference, the Scripps  
 21 interference proceedings?  
 22 A Yes.  
 23 Q Did you prepare a document, to your  
 24 recollection?  
 25 A I think I prepared a document.

1 testimony of Tony Pope, Ron Jackson and Kevin  
 2 Johnson, and I think I probably also looked at the  
 3 testimony of Andrew Griffiths.  
 4 Q How about John McCafferty?  
 5 A Ah yes, I looked at the testimony of  
 6 John McCafferty.  
 7 Q Did you look at any contemporaneous  
 8 -- by that I mean documents made during the period  
 9 of the work of McCafferty in your lab concerning  
 10 phage display of antibodies?  
 11 A I wasn't given any of those to look  
 12 at, and I didn't. I don't have any.  
 13 Q Did you look at Dr McCafferty's  
 14 notebook concerning this work?  
 15 A Sorry, you mean recently?  
 16 Q Yes.  
 17 A No.  
 18 Q It is my recollection from the last  
 19 deposition that, in the course of your work in  
 20 various cases, you prepared a chronology. Is my  
 21 recollection correct in that regard?  
 22 A You'll have to explain this --  
 23 MR VEZEAU: I'm going to --  
 24 THE WITNESS: Sorry.  
 25 MR VEZEAU: I'm going to object to

1 I prepared a document. Whether -- and it probably  
 2 would be called a chronology, but it does not  
 3 relate to the display on phage, to the best of my  
 4 recollection. I believe this pre-dated the work on  
 5 phage and was related to the work on antibody  
 6 repertoires.  
 7 I don't specifically recollect  
 8 writing a chronology on phage display.  
 9 Q Have you made any effort, prior to  
 10 today, to reconstruct that chronology as it relates  
 11 to work in your laboratory?  
 12 MR VEZEAU: What chronology?  
 13 MR SKILTON: The chronology relating  
 14 to the work of phage display of antibodies in  
 15 the Winter laboratory.  
 16 THE WITNESS: Have I made an effort  
 17 to reconstruct a chronology? Not really.  
 18 I have remembered things. I have  
 19 thought back over that period, but I have not done  
 20 it in the form of a chronology.  
 21 I've just thought about the events  
 22 that happened and the reasons we did things, as,  
 23 obviously, reading the testimony of the others,  
 24 John McCafferty, and my own recollections, it, sort  
 25 of, stimulates your brain cells and you start

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1 thinking about, you know, what happened and when.  
2 But to refer to it as a chronology I don't think  
3 would be correct.

4 BY MR SKILTON:

5 Q How much time have you spent in  
6 preparing for today's deposition as you have  
7 earlier described?

8 A I had a meeting with the lawyers  
9 several months' ago, and then I had a meeting --  
10 that meeting was about -- that meeting was several  
11 hours. And then I had a meeting last week with  
12 lawyers, and that lasted several hours again.

13 Q And those lawyers include Mr Vezeau?

14 A Yes.

15 Q Ms Choi?

16 A Yes.

17 Q Mr Clough?

18 A I'm sorry?

19 Q Mr Clough?

20 MR VEZEAU: Dr Clough.

21 THE WITNESS: Oh Clough. Right,  
22 sorry, he's called Clough, is he? Okay, right.

23 Sorry, I thought he was -- we would call him

24 "Cluff", if you spell his name like that.

25 BY MR SKILTON:

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1 Q And Attorney Walton?

2 A I'm sorry?

3 Q Attorney Walton?

4 A Oh yes, yes. The person you  
5 objected to, yes.

6 Q Any other persons?

7 A There was somebody else but I've  
8 forgotten his name.

9 Q A lawyer?

10 A I think he was.

11 Q Had you met him before?

12 A No.

13 Q At some point in time your lab then  
14 set about the job of determining whether or not to  
15 display antibodies on bacterio phage, is that  
16 correct?

17 A Sorry, could you repeat that  
18 question?

19 Q Yes. When was it in point of time  
20 that your laboratory first became interested in  
21 expressing antibodies or antibody fragments on  
22 bacterio phage?

23 A That sounds like a different  
24 question.

25 Q It probably was. You asked me to

1 state a question and I did. I'll withdraw the  
2 question.

3 A You re-stated the question. Okay.

4 So on that re-stated question: When did we first  
5 become interested?

6 I think we were musing with the idea  
7 when Andrew Griffiths was about to join the  
8 laboratory. So we're talking about 1988.

9 Q What caused you to muse about the  
10 idea?

11 A Well, when someone new comes to  
12 a laboratory we obviously have to think about the  
13 kind of project we're going to do, and what I try  
14 to do is to think about interesting projects that  
15 also have an opportunity of success, and we had  
16 a discussion about the use of -- about the use of  
17 bacterio phage at that stage. I don't remember  
18 very much about it because it's a long time ago.

19 The reason that we started thinking  
20 about it was because we had already started the  
21 work on making antibody repertoires, and we  
22 wondered whether it might indeed be possible to  
23 express antibody fragments on the surface of  
24 phage.

25 Q Did you give Dr Griffiths an

1 assignment at that time in 1988?

2 A He did have an assignment. It was  
3 to humanise an antibody.

4 Q Did you ask him to start a project  
5 with reference to the expression of antibodies on  
6 bacterio phage at that time?

7 A No.

8 Q Are you aware of any work of  
9 Dr Smith that you reviewed in 1988 after that first  
10 review of the 1985 article?

11 MR VEZEAU: Would you repeat that  
12 question, please, Thelma?

13 COURT REPORTER: Certainly.

14 "Q. Are you aware of any work of  
15 Dr Smith that you reviewed in 1988 after that first  
16 review of the 1985 article?"

17 THE WITNESS: I don't specifically  
18 remember reviewing any work of Dr Smith until the  
19 time of -- until about late '89, but somehow I was  
20 aware, and I don't know why I was aware of it, of  
21 the possibility of expressing antibodies at the end  
22 terminus, or the possibility of expressing  
23 something at the end terminus of filamentous  
24 bacterio phage rather than in the middle of the  
25 gene, and that actually gave me an extra level of

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1 confidence.  
2 Now, I don't know why I was aware of  
3 that. I assume that I either read or my attention  
4 was drawn to the paper of Parmley and Smith.  
5 BY MR SKILTON:  
6 Q A 1988 paper?  
7 A A 1988 paper, but I can't say when  
8 I read it. I can't even specifically remember  
9 reading it at that time.  
10 Q You have read it since?  
11 A I have read it since.  
12 Q In fact, when was the last time you  
13 read that Parmley and Smith paper?  
14 A The whole paper in detail?  
15 Q Yes.  
16 A Or you mea just bits of it?  
17 Q Well, let's talk about the whole and  
18 then we'll go to bits. First the whole.  
19 A I think I read the whole paper at  
20 the time that we filed our patent, in about  
21 probably '90 or '91, and I read it carefully then.  
22 And, more recently, I read that  
23 paper probably a few months' ago but, essentially,  
24 just looking at one or two bits of it.  
25 Q Had you read it prior to the time of

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1 the filing of your patent, if you recall, either in  
2 part or whole?  
3 A Which filing?  
4 Q Well, you mentioned the nineteen --  
5 A Well I'm talking about the final  
6 filing. I know I read it before the final filing,  
7 so that would be '91, I guess. So it would have  
8 been read before the final filing. I know I read  
9 it carefully before then.  
10 I don't remember reading it  
11 carefully before that period, but I was aware of  
12 it. I was aware of the possibility of expressing  
13 peptides at the end terminus of gene III before  
14 that time.  
15 Q Do you attribute that particular  
16 aspect of your work to Dr Smith?  
17 MR VEZEAU: Excuse me, I think that  
18 lacks a proper foundation. "The aspect of your  
19 work", I don't know what you're referring to.  
20 BY MR SKILTON:  
21 Q Do you under the question,  
22 Dr Winter?  
23 A Not really. I'd like you to repeat  
24 it or in a different form.  
25 Q Yes, I'll try it another way.

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1 Did you learn anything from that  
2 paper that you used in your work in your  
3 laboratory?  
4 A Did I use anything from that paper?  
5 Well, to the extent that I was aware of placing  
6 peptides at the end terminus of gene III, before  
7 McCafferty came to the laboratory, and given that  
8 McCafferty placed the antibody fragments at the end  
9 of gene III, then I assume that, yes, that aspect  
10 of Smith's work was used.  
11 MR SKILTON: I'm going to place in  
12 front of you a document, which we'll ask to be  
13 marked as exhibit 1 in this deposition.  
14 (Exhibit 1 marked for identification)  
15 BY MR SKILTON:  
16 Q Dr Winter, this is a document which  
17 bears the Bates stamp numbers of CM040353 through  
18 CM040358. It's a lengthy document. My first  
19 question is: Do you know who wrote it?  
20 A I'd have to read it.  
21 Q Can you read the first paragraph, if  
22 that helps? I won't be asking you the substance of  
23 the document, unless it's a document that you are  
24 personally familiar with.  
25 MR VEZEAU: Dr Winter, if you need

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1 to read any document during your deposition in  
2 order to answer a question, you feel comfortable in  
3 doing so.  
4 THE WITNESS: (Witness reviewed the  
5 document) I'm going to have to read this document  
6 before I comment on it. Do you want me to do it  
7 now?  
8 BY MR SKILTON:  
9 Q I won't take the time at this  
10 deposition to do it, other than to ask you one  
11 simple question. Have you ever read this document  
12 before?  
13 A Until I read it, I don't know.  
14 MR SKILTON: Let me put a series of  
15 documents in front of you. I don't wish to have  
16 them read. I want to have them marked for  
17 identification purposes and, if and to the extent  
18 I ask you any substantive questions, I'll permit  
19 you the opportunity to read it. So let's mark  
20 these documents in sequence.  
21 (After a pause) Let's go off the  
22 record and conform the exhibits.  
23 VIDEOGRAPHER: We're going off the  
24 record. The time is 8(sic).39.  
25 (A short recess at 9.39 am)

1 (Resumed at 9.43 am)  
 2 (Exhibits 2, 3 and 4  
 3 marked for identification)  
 4 VIDEOGRAPHER: We're back on  
 5 the record. The time on the video monitor is  
 6 8.43.  
 7 BY MR SKILTON:  
 8 Q Dr Winter, I have placed in front of  
 9 you additional documents, which were contained and  
 10 taken from a production described earlier on this  
 11 record, and I will specifically now identify for  
 12 the record exhibit 2 which, on its face, states  
 13 drafts 2 (GW15/8/90) and bears the Bates stamp  
 14 number of CM040359 through 362.  
 15 Focusing on that document, is this  
 16 is a document you recognise?  
 17 A I mean, all I can do at the moment  
 18 is to look at the title of it, the fact that there  
 19 are several names on it. It looks as though it is  
 20 a draft of the McCafferty paper, but I would have  
 21 to read it carefully to be sure of that.  
 22 Q Do the initials on the top represent  
 23 your initials, to your understanding?  
 24 A GW, yes. You mean GW 15/8/90?  
 25 Q Yes.

1 A Yes.  
 2 Q Does that help you in any way to  
 3 identify who prepared this document?  
 4 A It would suggest I prepared it.  
 5 But I should also point out that,  
 6 if you had simply taken those initials off one  
 7 document and stuck them on top of another document,  
 8 I wouldn't actually know for sure exactly whether  
 9 that correctly represented the draft of the paper;  
 10 all I could say is it appears to be a draft of the  
 11 paper but I can't guarantee that until I read it  
 12 and, even then, I may not be able to. It's a very  
 13 long time ago.  
 14 Q Do you have any knowledge as to  
 15 where these particular documents -- now I'm  
 16 referring to 1 and 2; exhibits 1 and 2 -- that you  
 17 have quickly looked at and have not read, where  
 18 they came from?  
 19 A I don't know.  
 20 Q Do you know whether or not these  
 21 documents were sent to CAT's lawyers, at any time?  
 22 A I have no idea.  
 23 Q Let's finish the identification of  
 24 these documents then for the record and we'll move  
 25 on.

1 Exhibit 3 is in front of you. It  
 2 purports to be draft 3 (DJC 15/8/90) and bears the  
 3 Bates stamp numbers CM040363 through CM040368. Do  
 4 you recognise the initials DJC?  
 5 A Yes, I do.  
 6 Q Whose initials are these?  
 7 A David Chiswell.  
 8 Q Without comparing it, does this also  
 9 appear to be a draft of what ultimately became the  
 10 McCafferty paper?  
 11 A It does, but there's actually...  
 12 What surprises me about this is that  
 13 the dates are both the same; there's GW 15/8/90  
 14 and DJC 15/8/90. I haven't compared the two, and  
 15 I know we were working hard to get this paper  
 16 written, but I'm surprised that, if there  
 17 significant changes between them, that this was  
 18 done in a day.  
 19 Q You said you know "we were working  
 20 hard to get the paper written"?  
 21 A Yes.  
 22 Q What did you mean by that comment?  
 23 A That we were working hard in the  
 24 sense that we were -- that we started from a draft.  
 25 I can't remember who wrote the first draft.

1 I suspect it was not me, but I'd have to read the  
 2 document carefully.  
 3 We had a lot of discussion about  
 4 what should go in the paper, the journal it should  
 5 go to, and we were in the process of describing the  
 6 work and crafting it to the journal where we wanted  
 7 to send it.  
 8 Each journal has a different style.  
 9 I think in the end we decided that we would have  
 10 a go for Nature, and so we had to put it in that  
 11 style. And, in fact, it's quite difficult to get  
 12 all the information into a Nature letter, which was  
 13 what was intended, and so I think we had to work  
 14 quite hard on trimming it at the very beginning and  
 15 deciding what we were going to leave out.  
 16 Q Was there any time urgency  
 17 concerning the submission of this paper?  
 18 A I think, as a scientist, there is --  
 19 if you've got an exciting result, then you want to  
 20 get it out in case someone accidentally -- you  
 21 know, perhaps someone else is working on something  
 22 similar. You don't know. So, for that reason, we  
 23 decided to move.  
 24 We also wanted to get publicity for  
 25 the company, Cambridge Antibody, which we'd just

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1 set up. It was a fledgling company and we thought  
2 this would be a great paper for that purpose.

3 Q Was there any consideration given by  
4 you personally, in terms of the timing of this  
5 publication, to get it published prior to any  
6 specific laboratory publishing its work?

7 A The main consideration we had was  
8 that we were in scientific competition -- well,  
9 it's the main problem I had, was I was in  
10 scientific competition with Richard Lerner's lab,  
11 and I had no idea whether he might be doing  
12 something similar. That was a consideration.

13 A second consideration was that we  
14 thought we had a reasonable prospect of getting it  
15 out that year; in other words, within the year  
16 1990. If we delayed much longer we could find it  
17 coming out in '91, and, in terms of establishing  
18 a scientific priority, it was therefore very  
19 important to get this paper out in 1990.

20 So I think there were those  
21 considerations. And I think the immediate pressure  
22 on us at that point was more to do with getting it  
23 out within the time year 1990.

24 Q What do you mean by "scientific  
25 priority", Dr Winter?

1 in fact, have -- I don't think at that point I had  
2 any discussions with the patent attorneys.

3 The priority, really, was that David  
4 Chiswell was concerned with the commercial issues  
5 of drafting a patent and I was concerned with the  
6 science.

7 Q Did you have any responsibility with  
8 respect to that first disclosure to the patent  
9 lawyer that you were aware had been made?

10 A I'm sorry?

11 Q Did you do anything with reference  
12 to that disclosure? Write a document? Be  
13 interviewed?

14 A Sorry, which disclosure?

15 Q The disclosure to the patent lawyer  
16 that preceded this draft?

17 A It wasn't disclosed. I mean, it  
18 wasn't disclosed. It was secret.

19 Q Yes, but I'm now talking about the  
20 inventive disclosure.

21 A Did I have discussions with the  
22 patent lawyer?

23 Q Yes.

24 A I don't think I did.

25 Q Did you ever have discussions with

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1 A Well, we thought that, having  
2 established that you could display antibodies on  
3 phage and select them, we believed that this would  
4 be the solution to selecting binding specificities  
5 from repertoires of immunised and perhaps even  
6 unimmunised V-genes, and so we wanted to show that  
7 we had done this first.

8 Q Was the issue of patent protection  
9 a consideration with reference to publishing this  
10 paper at this time?

11 A I don't think there was a specific  
12 issue of patent protection because, if anything,  
13 disclosing work makes it more difficult  
14 patent-wise.

15 Q Do you recall when it was in point  
16 of time that you first disclosed your work to your  
17 patent lawyer?

18 A I don't remember.

19 What happened was that David  
20 Chiswell and -- well, particularly David Chiswell  
21 was dealing with the patent lawyer. He, I  
22 understood, had talked to the patent lawyer  
23 certainly before this date in August, and we had  
24 filed, to the best of my recollection, at least one  
25 priority document before this date. But I didn't,

1 a patent lawyer with reference to prosecution of  
2 the application that ultimately in the United  
3 States became the 108 patent?

4 A The 108 patent, as far as  
5 I recollect, was filed a year later, in July 1991.  
6 Is that the one you're referring to?

7 Q I believe that the filing you're now  
8 referring to is in the European patent office, but  
9 let's use that date, if we can.

10 A Sorry, the July nineteen?

11 Q July 1991.

12 A July 1991. Yes, I was involved by  
13 that stage very much in formulating -- well, having  
14 discussions with patent lawyers and helping, along  
15 with David Chiswell, to formulate the claims, also  
16 in conjunction with the patent lawyers.

17 Q Who were your patent lawyers at that  
18 time, July of '91 and prior?

19 A The patent lawyers were Mewburn  
20 Ellis.

21 Q Was there a person in particular  
22 that you dealt with at Mewburn Ellis?

23 A The person I think we mainly dealt  
24 with, or certainly the most intensive discussions  
25 I recollect, was a partner of the firm called Ian



1 Armitage.

2 Q Would you spell that name, please?

3 A Armitage, A-r-m-i-t-a-g-e.

4 Q First name?

5 A Ian.

6 Q During this period were you dealing  
7 with a lawyer by the name of Sean Walton?

8 A We might have been, but actually  
9 I don't remember him then, but he could well have  
10 been around. As I say, the main personal we were  
11 dealing with was Ian Armitage. I came to know  
12 Sean Walton later.

13 Q Can you be more specific?

14 A Not really, no.

15 Q Did you, at that time, draft any  
16 documents for Mr Armitage? That time now is July  
17 of '91 and prior.

18 A July '91 is the period I particular  
19 remember. That isn't to say that I might not have  
20 been involved in drafting documents before that,  
21 but I simply don't remember it now.

22 But I do recollect in July '91  
23 having extensive meetings at Mewburn Ellis's  
24 offices and working on the draft on a computer  
25 screen, but I don't remember at that stage having

1 I take it around that date, and

2 prior to the date of the actual filing, there were  
3 meetings involving the drafting of the patent  
4 application?

5 A There may well have been meetings.

6 I don't remember any of those meetings with  
7 Cambridge Antibody.

8 I do remember going to people within  
9 my own laboratory and talking to them and trying to  
10 make sure that we got the data down for taking it  
11 across to the patent attorneys.

12 Q You earlier stated that one of the  
13 things you were particularly concerned with were  
14 the examples in the patent, is that correct?

15 A I was concerned with some of the  
16 examples. There were others which, in fact, I  
17 didn't have much to do with, which were work being  
18 undertaken in Cambridge Antibody Technology.

19 Q Are you able here to reconstruct  
20 what examples you personally worked with in  
21 reference to this application?

22 A I'd have to see a copy of the filing  
23 and actually go through it carefully, but I can  
24 remember some of them.

25 Q Would you, please?

1 a copy of that draft myself.

2 It was a very large document. There  
3 was a lot of bits of -- there were a lot of  
4 examples going into it. In fact, my main  
5 responsibility, again, was on the science to make  
6 sure that we were pushing ahead at the work,  
7 because we were in the process of making antibody  
8 repertoires and selecting them and we wanted to try  
9 and get all these examples in the patent. So I was  
10 largely responsible, I think along with Ron  
11 Jackson, for getting the work written up in the  
12 form of an example that we could put into the  
13 patent.

14 Q Jackson worked on it with you?

15 A I believe so.

16 Q Who else from either the MRC or  
17 Cambridge Antibody worked with Mewburn Ellis at  
18 this time?

19 A It's possible John McCafferty may  
20 also have been there, but I particularly remember  
21 David Chiswell, myself, and I'm fairly sure Ron.  
22 I think John may have come to some of the meetings  
23 but I don't think he came to all of them.

24 Q Let's use that date of July of 1991  
25 and see how specific we can be.

1 A But I can't remember... Well,  
2 obviously there was the first example; in other  
3 words, the display of the anti-lysozyme, the VH and  
4 ScFv on the surface of phage.

5 Q This was the McCafferty work?

6 A The McCafferty work, correct.

7 Q And this was the initial work?

8 A That was the initial work.

9 Q And this was what had led to the  
10 filing of the first disclosure?

11 A Correct.

12 And there was the other example that  
13 I took responsibility for, was the Clackson work on  
14 selecting anti-phenyloxazolone phage antibodies  
15 from an immunised animal.

16 And the third one I remember having  
17 involvement with was the work on naive libraries of  
18 antibodies, which had been work by Jim Marks and  
19 Hennie Hooogenboom and Andrew Griffiths.

20 But there may have been a number of  
21 other things in there. I'd really have to go  
22 through each example and describe my involvement.

23 Q I'm going to, if I may, complete the  
24 record on identification of the documents that have  
25 been in front of you and not yet identified.

1 Exhibit 4, do you have that in front  
2 of you?

3 A Mmmm.

4 Q That appears to be, on its face, a  
5 document styled "phage antibodies", etcetera, with  
6 authors, including yourself, listed, and bears the  
7 Bates stamp number of CM040369 through CM040378.  
8 This appears to be a draft of the paper, does it  
9 not, Dr Winter?

10 A It does appear to be.

11 (Exhibit 5 marked for identification)

12 Q In front of you is exhibit 5, which  
13 is a document that bears the Bates stamp number  
14 CM040379 through CM040385. Again, this appears to  
15 be a draft of the paper, does it not?

16 A Yes.

17 (Exhibit 6 marked for identification)

18 Q And then I place in front of you  
19 a document which is separately marked -- whether it  
20 should be or not I think the record will ultimately  
21 have to be clarified -- is exhibit 6, which bears  
22 the Bates stamp numbers CM040386 through CM040392.

23 Do you recognise this set, if you  
24 will, of documents just by looking at them quickly?

25 A It looks like a series of pages

1 taken from the work at random.

2 Q All right. Let me go back, if  
3 I may, to your participation in the drafting of  
4 examples for the patent.

5 Did you keep a file with reference  
6 to the work that you did in assisting your patent  
7 lawyer?

8 A No.

9 Q Is there any way, that you're aware  
10 of today, to reconstruct your contribution with  
11 reference to any of the drafting of this patent?

12 A I think the only way to do it would  
13 be for me to look at the patent and just tell you,  
14 to the extent that I can remember.

15 Q At any time did you make an effort  
16 to identify separately who invented what with  
17 reference to this patent?

18 A We had a discussion with our lawyers  
19 at that stage as to who the inventors were. And  
20 the way this worked was that quite a few people in  
21 the laboratory had been involved in the work and it  
22 wasn't -- because I'm not a lawyer, we had to take  
23 advice on, of those people, who were inventors and  
24 who were not.

25 So that what we did was we -- the

1 way we decided to do this was to write the patent  
2 with the examples that we felt were necessary to  
3 support the patent, and then we looked at the role  
4 of -- we took a look at each claim in the patent  
5 and asked who were the people who'd been involved  
6 in each of those claims. And that was a process  
7 which involved myself, David Chiswell and the  
8 patent lawyer.

9 Q The patent, of course, is written  
10 with a number of people listed?

11 A Yes.

12 Q And the patent does not separate out  
13 the individual contributions of any of those  
14 persons?

15 A That's true, but that's fairly  
16 normal in the case of a patent.

17 Q My question is: Is there any way,  
18 that you're aware of today, to reconstruct the  
19 individual contributions of each of the named  
20 inventors?

21 A I think the process would have to  
22 involve, essentially, myself and David Chiswell  
23 going through the document.

24 Q Have you ever been asked to do that?

25 A No. But I have to say that, of

1 course, that, along with other evidence, even  
2 files, is just an attempt to get at an event which  
3 happened a long time ago.

4 Q Well, it was easier to do it a long  
5 time ago than it is today, I assume. Would you  
6 agree with that?

7 A Well, I don't know. I mean, I think  
8 I'd just have to look at it. I mean, I think that  
9 the decisions we certainly felt then were quite  
10 defensible.

11 Q Did you, if you recall, ever -- and  
12 by now I've, sort of, asked this in stages. At the  
13 time of July of 1991, did you prepare a document  
14 which separated out the individual contributions of  
15 each of the named inventors?

16 A I do not remember preparing a  
17 document of that sort.

18 Q Have you ever seen a document which  
19 did that?

20 A I don't think so.

21 Q Have you ever participated in the  
22 preparation of any presentation as it relates to  
23 who invented what in what became the 108 patent?

24 A I have no recollection of  
25 a presentation.

1 Q And --

2 A I should add, though, that one of  
3 the things that I had to do was to explain to  
4 various people in the laboratory why some people  
5 were inventors and why some people were not. So,  
6 although I didn't write a document on it, it was  
7 pretty clear in my mind and I was able to explain  
8 to them.

9 Q If you were asked to do so today by  
10 looking at the patent, would you be able to do so?

11 A I believe I could get -- I could  
12 identify several of them. I'm not sure I can, at  
13 the moment, say that I could do all of them, but  
14 there's a chance I might be able to.

15 But I have to point out that the  
16 process was a joint process, so I can just remember  
17 my own involvement in it, to some extent, and it  
18 would be helpful to talk to Ian Armitage and David  
19 Chiswell in order to reconstruct, you know, what  
20 hopefully would be the truth.

21 Q So the process you would envision to  
22 answer that question would be for you to read the  
23 patent, to engage in a discussion with Chiswell and  
24 Armitage, and try to reconstruct who invented what?

25 A I think that would be the way

1 I would -- that's one way you could get at it, yes.

2 Q And is it correct to say that, up  
3 until this very point in time, you were never asked  
4 to do anything like that by anybody on CAT's  
5 behalf?

6 A I have not been asked to do anything  
7 like that, no.

8 Q Do you know whether attorney  
9 Armitage is still with Mewburn Ellis?

10 A I do not, no.

11 Q When was the last time you talked  
12 with him?

13 A I think it was some time in the  
14 early nineties. It was in Japan.

15 Q What was the occasion, if you  
16 recall?

17 A There was a conference in Japan and  
18 he was in the audience.

19 The reason that Cambridge Antibody  
20 had chosen Mewburn Ellis was because I had  
21 previously been an advisor to a company called  
22 Scotgen.

23 Q Could you repeat that, please?

24 A Scotgen.

25 Q S-c-o-t?

1 A S-c-o-t-g-e-n. And Scotgen was --

2 it was a small biotech company, that later died.  
3 Some time in the early nineties had died. But I'd  
4 been very impressed by the work done by Mewburn  
5 Ellis, in particular Ian Armitage, in discussing  
6 humanising antibodies.

7 Scotgen was involved in making a  
8 business out of an earlier technology I'd invented,  
9 which was a process of humanising antibodies, and  
10 Ian Armitage was the agent they'd used and was  
11 extremely impressive and, therefore, I suggested  
12 that Cambridge Antibody should use him, and they  
13 did.

14 Q Are you aware of whether or not  
15 Mr Armitage made any notes with reference to this  
16 issue of who invented what?

17 A I have no idea.

18 MR SKILTON: Mark this, please.

19 (Exhibit 7 marked for identification)

20 BY MR SKILTON:

21 Q Dr Winter, I have placed in front of  
22 you a document which purports to be a press notice  
23 of MRC and bears the Bates stamp number of CM040126  
24 through CM040128. Do you remember ever seeing this  
25 document before?

1 A I probably saw it at the time.

2 I don't specifically remember this document. It  
3 appears to be a press release from the MRC.

4 Q Would you take your time here and  
5 read it and then I want to put some questions to  
6 you?

7 A (Witness reviewed the documents)  
8 Yes, I've read it.

9 Q This appears to be a document that  
10 issued on or about December 5, 1990. Do you read  
11 it that way, looking at the last page?

12 A Yes, it appears to be, yes.

13 Q And it was a written in anticipation  
14 of a paper to be published on December 6?

15 A I don't know the publication date of  
16 the McCafferty paper but, if it is the 6th, you  
17 know, that would...

18 This does relate to that paper, but  
19 exactly the precise dates of publication of this  
20 and the paper I couldn't be sure of.

21 Q This document refers to a challenge  
22 -- the first page, if you will -- from  
23 Dr Milstein. What, if any, relationship did this  
24 challenge from Dr Milstein have to the McCafferty  
25 project that ultimately resulted in the paper?

1 A Well, it says here that the  
2 challenge, according to this press release, is,  
3 Could we devise a method of making artificial human  
4 antibodies entirely outside the body without the  
5 use of human or animal immunisation? And it  
6 represents the McCafferty paper as being a step  
7 towards that goal.

8 Q Is that a fair statement of, in  
9 fact, why it was in point of fact that the MRC  
10 laboratory first commenced to do the phage display  
11 of antibodies?

12 MR VEZEAU: Thelma, why don't you  
13 read that one back, please?

14 COURT REPORTER: Certainly.

15 "Q. Is that a fair statement of, in  
16 fact, why it was in point of fact that the MRC  
17 laboratory first commenced to do the phage display  
18 of antibodies?"

19 THE WITNESS: You talk as though the  
20 MRC laboratory is something distinct from my own  
21 group. What do you mean?

22 BY MR SKILTON:

23 Q Maybe I have misstated a  
24 distinction.

25 A Right. So that what I think you...

1 The MRC laboratory, apart from  
2 myself, was not involved in undertaking the work on  
3 antibody repertoires. It was only my group.

4 So if I rephrase that question as:  
5 "Is this a fair summary of why we had done our  
6 work?", I have to think carefully. I mean,  
7 obviously...

8 Are you saying, "Is it a fair" --  
9 are you saying that we did our work in response to  
10 Milstein's challenge? Or are you saying that we  
11 did our work as basically a step in the way of  
12 making antibodies without immunisation?

13 Q What, if any, relationship did  
14 Milstein's challenge have to the commencement of  
15 the work that McCafferty did on phage display?

16 A Milstein's challenge was not  
17 directly -- was not the motivation behind the work  
18 on McCafferty. But Mil --

19 Q What was -- I'm sorry.

20 A But Milstein -- the problem we were  
21 dealing with is that there were things out there in  
22 the public domain and Milstein had actually put in  
23 his Croonian Lecture of the Law Society towards the  
24 end of his paper the idea that one might be able to  
25 make antibodies by some synthetic process. And

1 that was out there, so that he'd put that work in.

2 But Milstein was well aware of what  
3 I was doing at the time he was the head of the  
4 division, and I used to talk to him and keep him  
5 fully up-to-date. He was very excited by the work.

6 Q What was the motivation, the  
7 particular motivation for the McCafferty?

8 A The motivation for the McCafferty  
9 work was to find some way of dealing with the very  
10 rare phages with binding activities that emerged as  
11 a result of making combinatorial repertoires.

12 Q I want to refer to the bottom  
13 paragraph on CM040127, which purports to be a quote  
14 of you. Are you following me?

15 A Yes.

16 Q I'll read the reference point of the  
17 question. "'This work is promising' says Dr Winter  
18 'but further steps are needed.'"

19 "This work" is referring to what,  
20 as you read this document?

21 A It's referring to the use of  
22 McCafferty. In other words, the display and  
23 selection of folded antibodies on the surface of  
24 phage.

25 Q What are the "further steps" that

1 you're referring to in this quote?

2 A Well, it says here, "For example, it  
3 will be necessary to make diverse libraries of  
4 phage antibodies, and to find ways of mutating and  
5 then selecting for those that have improved binding  
6 activities."

7 Q Was your laboratory at that time  
8 working on making of diverse libraries?

9 A I'll just have to think about the  
10 dates here.

11 (After a pause) We had already  
12 described the previous year making of repertoires  
13 of antibody heavy chain genes from immunised  
14 animals and expressing those in bacteria, and we  
15 continued to undertake work in that general  
16 direction; in particular, trying to make  
17 combinatorial repertoires by -- let's say, random  
18 combinatorial repertoires by taking a diverse set  
19 of heavy chain genes and a diverse set of light  
20 chain genes and be able to stitch these together in  
21 an entirely random manner. And so we used a PCR  
22 strategy, and that was work that Tim Clackson was  
23 working on.

24 Now, I can't remember where that  
25 work was at the time that this press release was

1 issued, but it had certainly been started.

2 Q Dr Winter, I'm placing in front of  
3 you what, on its face, appears to be an article  
4 which appeared in Nature and was earlier marked in  
5 these proceedings as McCafferty exhibit 11. (Same  
6 handed) Do you recognise this article?

7 A (Witness reviewed the document)  
8 This appears to be a copy either of the article  
9 that emerged or, conceivably, a proof copy. No, it  
10 must be the article because it's on 6th December  
11 and the publication date is given.

12 Q And this is the article, would you  
13 agree, that's referred to in the press release?

14 A Yes. It is, yes.

15 Q Now, your work, earlier work on  
16 libraries had also been published, had it not?

17 A Yes, it had.

18 Q And, as you sit here today, what  
19 you're saying is that you can't put a direct time  
20 line on the status of additional work with respect  
21 to libraries, is that correct?

22 A At this point, you know, at this  
23 particular moment in time I can't recollect exactly  
24 where our library work was at that point, but we  
25 were certainly working on it actively.

1 Q And the "for example" sentence, it  
2 refers in part, does it, to the ongoing work?

3 A I'm sorry?

4 Q Of your laboratory, as it relates to  
5 libraries?

6 A I'm sorry, which sentence are you  
7 talking about?

8 Q I'm going back to the bottom  
9 paragraph, please, of the second page, the "for  
10 example" sentence. Does it refer, in part, to the  
11 ongoing work of your --

12 A Oh, so you're going back to the  
13 press release?

14 Q Yes, I'm sorry.

15 A Okay, sorry. At the bottom  
16 paragraph.

17 Q Yes.

18 A Oh yes, "for example", yes.  
19 Absolutely, yes, it does. We were in the process  
20 of looking at this.

21 Q As well as having published and  
22 already looked at some of the issues as it relates  
23 to libraries?

24 A We had made some libraries but we  
25 felt that the...

1 The issue this was particularly  
2 addressing was the issue of -- if we look at, sort  
3 of, the challenge issued by Milstein in the form of  
4 this press release on the first page, the  
5 particular point was, "Can we make artificial human  
6 antibodies entirely outside the body without the  
7 use of human or animal immunisation?"

8 Now, the work that McCafferty  
9 describes is the display of a mouse antibody on the  
10 surface of phage and the selection of that. And  
11 obviously a variety of further steps would be  
12 required. For example, just making human  
13 antibodies; getting suitable PCR primers to amplify  
14 out the human V-genes, and to make sure that the  
15 way we did that didn't give us any undue biases.

16 Q And this was work that remained to  
17 be done?

18 A Well, this was work that either  
19 remained to be done or we were in the process of  
20 doing.

21 Remember the article had been  
22 submitted in August, and so a number of things  
23 would have happened between August and December  
24 when it came out. So, although I don't think we  
25 created diverse libraries by August, we may well

1 have done by December.

2 Q What was the contribution, inventive  
3 contribution, made by David Chiswell to the  
4 application which ultimately became the 108 patent?

5 A To the best of my recollection, we  
6 regard, and certainly I regarded, that the  
7 invention was the demonstration of functional  
8 folded antibody on the surface of phage, and that  
9 therefore the inventive contribution of David  
10 Chiswell came from his contribution to the joint  
11 effort that we had with McCafferty, myself, Andrew  
12 Griffiths. He was involved in making various  
13 practical suggestions and had certainly been very  
14 keen on the idea.

15 Q Who was it that first thought of the  
16 idea of displaying functional folded antibodies on  
17 the surface of phage, if you know?

18 A Who first thought of the idea?  
19 Well, I can't answer that definitely. All I can  
20 say is that the idea had been discussed by myself  
21 and Andrew Griffiths, probably some time in 1988  
22 when he came to the laboratory.

23 We had revisited the idea some time  
24 in -- with actually much more urgency in the  
25 summer; I think probably about May or so, perhaps

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1 April/May of 1989. So all I knew is when we had  
2 discussed it. There may well be other people who  
3 may have had the idea.

4 Q This was before any association or  
5 affiliation with David Chiswell, am I right?

6 A Correct.

7 Q What was the urgency that you  
8 alluded to in the summer or May of 1989?

9 A The summer of '89?

10 Q My notes say -- they may be  
11 incorrect -- that you answered the question on when  
12 it was that the idea was addressed with more  
13 urgency --

14 A Oh sorry, yes. We started -- as  
15 I say, it was probably more like April or May. We  
16 were concerned...

17 What had happened is that, at  
18 that point, we had expressed antibody VH  
19 repertoires as secreted fragments from bacteria,  
20 and Andrew Griffiths had determined the sequence of  
21 many of the V-genes, and we saw there was a huge  
22 range of them. In other words, the sequences  
23 appeared to be, from the sample of fifty that we  
24 took, my recollection is that there were only a few  
25 that were the same, if any. I can't remember now

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1 exactly what it was. But we therefore felt that  
2 the PCR method that we'd taken was clearly  
3 generating many diverse genes.

4 And, at that point, we had  
5 undertaken -- we were undertaking work with the  
6 D1.3 VH single domain. Now, this is from an  
7 antibody which binds to lysozyme, and Sally Ward  
8 had shown that the VH D1.3, when this bound to --  
9 that the VH D1.3 bound to lysozyme with quite good  
10 binding activity; in fact, almost as good as the  
11 -- I think it was the Fv fragment that she was  
12 using at that point. But when we combined that  
13 with other light chains, we found that we couldn't  
14 demonstrate binding. It's as though the addition  
15 of a light chain, that wasn't the actual original  
16 light chain, turned off the binding of the heavy  
17 chain.

18 So I felt that there must be light  
19 chains in there that would mimic in some way the  
20 original light chain of D1.3 antibody and would  
21 give us binding, and I was interested in that  
22 because we wanted to be able to move from single  
23 domains to expressing complete antibody fragments  
24 with the associated chains.

25 So the strategy at that point that

1 we were considering was the idea of identifying  
2 heavy chains with binding activity by the methods  
3 where we'd -- by, essentially, ELISA-based  
4 techniques, and then trying to find a light chain  
5 that could be paired with those that would give one  
6 binding activity, even though it wasn't the  
7 original light chain. But it was clear that that  
8 frequency was going to be rather low.

9 It was also clear that other  
10 strategies which we had, where one might just throw  
11 the heavy and lights together at random, the  
12 frequencies there would also be extremely low, and  
13 we felt that the use of screening methods was  
14 really not the way to go.

15 And so, at that point, we wondered  
16 about methods of selection. And I had a discussion  
17 with Andrew Griffiths on perhaps the best way that  
18 we could use to select antibody fragments. One way  
19 would have been to express them on eukaryotic  
20 cells, and I think that that approach was inspired  
21 by some work by Brian Seed.

22 Another way was to try to express  
23 them on bacteria. And work by a French group had  
24 shown that peptides could be expressed on the  
25 surface of lamB, which is an E. coli protein, and

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1 I think it had been shown by binding of anti-serum  
2 that such bacteria could be selected or had been  
3 precipitated by anti-serum.

4 And the other possibly was the  
5 experiments -- was the use of bacterio phage using  
6 gene III.

7 Q And that's the work of George Smith?

8 A And that was the work of George  
9 Smith, correct.

10 So we had these possibilities in  
11 front of us.

12 Q An you chose ultimately to use the  
13 gene III bacterio phage rather than George Smith,  
14 correct?

15 A We ultimately chose to do it,  
16 although Andrew Griffiths did start some work with  
17 lamB, which was not successful.

18 Q Now, I'm going to return, if I may,  
19 to David Chiswell's contribution. First of all,  
20 let's go back in time. When was the first time  
21 that you ever met Dr Chiswell?

22 A I'm not absolutely sure. I was  
23 a consultant for Amersham. Amersham at that point  
24 were interested in humanising an antibody. In  
25 fact, I advised -- I don't know whether at that

1 point or before that -- a number of companies that  
2 were interested in humanising antibodies. One of  
3 those company was, for example, Unilever. Another  
4 one was -- there was Amersham. I was advising  
5 Scotgen. And at one stage I was advising Celltech.

6 I was very interested in seeing this  
7 technology applied, and companies wanted to apply  
8 it, so I agreed to consult them for, I think --  
9 I agreed to be a consultant for a very limited  
10 number of days a year. It might be one or two;  
11 I simply can't remember what it was.

12 And I think that, in Amersham,  
13 Chiswell was part of the group. I think he was the  
14 group leader of the people who were humanising  
15 antibodies at that time.

16 But, actually, I only remember  
17 meeting him I think twice in Amersham. There was  
18 a meeting I had where they were describing their  
19 project, but they didn't, in fact, tell me what the  
20 antibody was supposed to do. They were extremely  
21 secretive. In fact, I found them rather  
22 frustrating to advise because they revealed very  
23 little of what they were up to. Other companies  
24 were much more open. Because one had a  
25 confidentiality agreement, you know, I felt it was

1 second time.

2 Q Do you have specific recall of that  
3 meeting?

4 A Yes, I do have recall of that  
5 meeting.

6 Q What occurred at that meeting, to  
7 your recall?

8 A I had been asked to go and give  
9 a talk there. The intention had been to combine  
10 a consulting session with giving a talk to enthuse  
11 Amersham about the prospects for antibodies. But  
12 it turned out that, when I went there, that  
13 Amersham appeared to have made a decision to axe  
14 the antibody work, the humanising work. In fact,  
15 I gave a talk in Amersham about our work on VH  
16 repertoires and the possibilities of building up  
17 antibodies from such repertoires.

18 Q During this same session?

19 A During this same session. Well,  
20 what happened was that there had been a consulting  
21 session I was supposed to have, and then there was  
22 a talk after it -- or perhaps it was the other way  
23 round; I simple can't remember -- but I never got  
24 the consulting session because they just said,  
25 "We've all lost our jobs or we're going to be

1 actually better if I had some idea of what they  
2 were actually after, and obviously I would keep it  
3 confidential, but Amersham told me nothing about  
4 what they were doing; whether it was for  
5 therapeutic or whether it was for diagnostic  
6 purposes, or imaging, or whatever. So in that,  
7 kind of, unpromising aspect, I actually...

8 Chiswell was the group leader of  
9 that, and so I was actually, naturally, a little  
10 bit hostile to the way they were treating me. But,  
11 in fact, Chiswell was very pleasant and I got on  
12 with him very well. You know, he managed to  
13 somehow overcome this intrinsic problem that  
14 Amersham had with not divulging anything.

15 Later on, at some point, and I don't  
16 know when it was, I met him in the States, but  
17 I have very dim memories of that.

18 Q Can you give us at least a time  
19 frame of these initial consults with Amersham  
20 during which you met David Chiswell?

21 A The very first I simply can't  
22 remember. We're probably talking about '88 or  
23 '89.

24 I did meet him in Amersham in the  
25 summer of '89 for a second time, or at least a

1 shifted somewhere else."

2 Q Did you have a conversation with  
3 Dr Chiswell during this session in the summer of  
4 1989 about any plans he had, if any, with reference  
5 to starting up a new company?

6 A We touched on it. He actually was  
7 clearly very excited by the new technology  
8 I described, but also clearly had been shocked by  
9 the fact that his whole team was being axed, and  
10 I believe relocated to Cardiff, which is in Wales.

11 Q Dr Chiswell didn't go to Cardiff, to  
12 your understanding, did he?

13 A No, he didn't go to Cardiff, no.

14 Q I'm sorry, finish your answer.

15 A Sorry. I had a brief discussion  
16 with him and I think I had a brief discussion -- at  
17 least I did have a brief discussion at that stage  
18 with Peter Garland, who later became the chairman  
19 of Cambridge Antibody. Peter Garland was, at  
20 least, I think was heading the research side of  
21 Amersham. So I remember meeting Garland for the  
22 first time at that time.

23 Q Did either Chiswell or Garland  
24 express to you their desire to start a new company  
25 that would work in the antibody field?

1 A I think Chiswell told me that he was  
2 interested in starting a new company, and that  
3 obviously humanising would be one approach. But  
4 another approach might be the development of this  
5 more recent technology that I described, and he was  
6 very enthusiastic about that.

7 Q Did he say anything to you about an  
8 idea that he had about attempting to display  
9 antibodies or antibody fragments on bacterio phage?

10 A No.

11 Q At that time?

12 A No, he didn't.

13 Q Did you have any discussion during  
14 this session with anyone in the summer of 1989  
15 concerning such an idea? And now I'm referring to  
16 your Amersham context.

17 A No.

18 MR SKILTON: Let's see, it's quarter  
19 to 11. Why don't we take our first break?

20 VIDEOGRAPHER: We're going off the  
21 record. The time is 9(sic).41.

22 (A short recess at 10.41 am)

23 (Resumed at 11.00 am)

24 (Exhibit 8 marked for identification)

25 VIDEOGRAPHER: We're back on the

1 quite categorically, I did not attend this  
2 conference.

3 Q And that's based on a certain  
4 recollection?

5 A It's based on the recollection I was  
6 one of the organisers of this conference and I did  
7 not go to it.

8 Q Did anyone, to your knowledge, from  
9 the MRC go to this conference?

10 A I can't be sure of that. For  
11 example, Sydney Brenner, who is marked on this  
12 first page, as MRC Molecular Genetics Unit, he may  
13 well have gone to the conference. I believe Cyrus  
14 Chothia did not. I believe Andrew Griffiths did  
15 not. I believe Terence Rabbitts did not.

16 Q Are you aware of --

17 MR VEZEAU: Excuse me. (To the  
18 witness) Are you finished with your answer.

19 MR SKILTON: I'm sorry.

20 THE WITNESS: Yes. There are no  
21 more MR -- oh, sorry, and Sally Ward did not.

22 BY MR SKILTON:

23 Q Was there a reason that you did not  
24 attend this conference?

25 A Yes. I did not wish to attend the

1 record. The time is 10(sic).00.

2 BY MR SKILTON:

3 Q Dr Winter, I have placed in front of  
4 you what has been marked as exhibit 8 in these  
5 proceedings, which is a document which purports to  
6 be an invited participants' list with respect to  
7 a certain conference, and bears the Bates stamp  
8 numbers of MO81881 through 1883. Is this exhibit 8  
9 --

10 A Sorry, exhibit 8, yes. It says at  
11 the top exhibit 4, but at the bottom it says  
12 exhibit 8.

13 Q The reason this is in front of you  
14 is that if you look at the last page you'll see,  
15 under W, which is -- I think you're condemned for  
16 life to be -- on the last page, Winter. Usually  
17 I make it to the penultimate page. And invited  
18 participants is the list.

19 Do you recall whether or not you  
20 went to this particular conference?

21 A Yes, I did not.

22 Q Do you keep any kind of a calendar  
23 to indicate to you what conferences you do attend  
24 in any given year?

25 A Not really, no. But I can say,

1 conference.

2 Q Why was that?

3 A I didn't wish to attend the  
4 conference because I didn't think it was in the MRC  
5 group's scientific interest, that's my group's  
6 interest, to attend the conference and discuss our  
7 ideas at a time of great scientific competition.

8 Q What was the great scientific  
9 competition that you've just referred to, at this  
10 particular time, April, to be specific, 23 through  
11 26 of 1990?

12 A Well, that's the date of the  
13 conference, but the date of this list is November  
14 27, '89.

15 Q Okay.

16 A So I think it was actually --  
17 I can't remember when I decided that I wouldn't go  
18 to the conference, but I think it was either in  
19 very early '90 or very late '89.

20 Q What was the scientific competition?  
21 I think you used the word great scientific  
22 competition?

23 A Correct. Between my own group and  
24 that of Richard Lerner's.

25 Q And that was the technology you



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1 alluded to earlier in the day?

2 A To do with antibody repertoires,  
3 correct.

4 Q What was the risk or jeopardy that  
5 you were concerned about should your group, or any  
6 member of it, attend this conference?

7 A There were a number of...

8 As I understand it, this conference  
9 had been intended to be -- because it was invited  
10 participants, was intended to be confidential. And  
11 Richard Lerner, because of, I think, the funding by  
12 SmithKline, this conference, there were at least --  
13 I can see here, actually, there were two people;  
14 Christoffersen and also George Poste. I don't  
15 specifically remember those people as being  
16 invited, although they are on this list, but  
17 nevertheless I felt -- oh, yes, there's three;  
18 there's Rosenberg from SmithKline.

19 And I actually felt quite uneasy  
20 about the presence of those people from a major  
21 pharma company, essentially getting a privileged  
22 window into a series of discussions that were going  
23 on between some of the key protagonists in the  
24 field.

25 Q Prior to July 10 of 1990 did you go,

1 disclosed to an unauthorised person?

2 A There was certainly a risk of that.

3 The problem I faced was that, if I go to  
4 a conference, I do like to be open, and there  
5 didn't seem much point in going to a conference on  
6 a new and developing technology where I'd be having  
7 to watch everything I said.

8 Q And that technology, as described  
9 here, is vectors for cloning the immune response.  
10 That's your understanding of what the  
11 subject-matter of that conference was?

12 A Although I can't actually remember  
13 exactly why the conference had that title, I think  
14 the title was a title suggested by Richard Lerner.  
15 He was the co-organiser with me.

16 Q For this record, would you define  
17 your understanding of the concept of "vectors" as  
18 used in this particular title?

19 MR VEZEAU: Objection. Lack of  
20 foundation.

21 BY MR SKILTON:

22 Q I'm asking for your understanding of  
23 it.

24 MR VEZEAU: Same objection.

25 BY MR SKILTON:

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1 personally go, to any conference that talked about  
2 or had as a subject of discussion the phage display  
3 of antibodies or antibody fragments?

4 A Before 1990? I don't remember any  
5 conference that I went to before July 1990 where  
6 that was a topic of discussion.

7 Actually, I don't think I went to  
8 any conferences at that point. I decided that the  
9 work such sufficiently sensitive that we should  
10 just shut up and get on with it.

11 Q Was that a policy, then, of your  
12 laboratory?

13 A It was a policy of my laboratory at  
14 that time.

15 Q And at that time now -- and I'm  
16 being specific on the date -- let's say from  
17 November of '89 through July of 1990, is that the  
18 time frame that you are referring to in your last  
19 answer?

20 A Yes. We were very careful about  
21 what was said in public.

22 Q Was it true that you believed that,  
23 though these conferences were "confidential", on  
24 occasion there was risk that either trade secrets  
25 or matters of confidence in the laboratory would be

1 Q Do you have an understanding of it?

2 A Of what the word "vectors" means?

3 Q In this context?

4 A Well, I'm looking at this title now  
5 and wondering actually why it had such a strange  
6 title. I mean, you might say I was an organiser of  
7 it, and I'm surprised that it has that title, but  
8 I think that, at that stage, there was -- well,  
9 almost certainly, Richard Lerner was very concerned  
10 about his use of Lambda phage, which he believed  
11 gave him a massive advantage over other systems for  
12 screening, direct screening of antibody fragments  
13 with binding activities. And I think that part of  
14 his interest was to...

15 Well, so Richard had become  
16 interested in the vectors, the kind of systems  
17 you'd use, and the Lambda bacterio phage gave them  
18 a way of being able to create very large  
19 combinatorial libraries by essentially cloning each  
20 library on different parts of the bacterio phage  
21 and then putting them together.

22 So, whereas I think previously  
23 Richard Lerner didn't know very much about vectors,  
24 he was obviously very excited by his results and  
25 the technology that he had, and was, kind of,

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1 trying to get people to use the Lambda bacterio  
2 phage system.

3 Q Let's get a time frame more specific  
4 in reference to the conference date of April, late  
5 April of 1990.

6 Your lab, by that time, had  
7 undertaken its work with bacterio phage and the  
8 display of antibody fragments, is that correct?

9 A I believe that we had displayed and  
10 demonstrated binding activities of antibody  
11 fragments by the date of that conference.

12 Q Had McCafferty begun his work, if  
13 you recall?

14 A Well McCafferty -- I told you  
15 earlier, McCafferty started in January 1990.  
16 I think that's on the record.

17 Q Right. And I believe his lab book  
18 shows as its first entry January 22nd of 1990. Is  
19 that a date, as you sit here, that seems sensible  
20 to you in terms of when he commenced his work?

21 A I actually thought he started before  
22 that but, of course, it may well be that he was  
23 getting reagents sorted out. But I think he was  
24 physically present in the lab when we were  
25 discussing the work well before 20th January.

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1 Q In reference to the word "vectors",  
2 how would you describe what he was doing with  
3 reference to that concept of vectors?

4 MR VEZEAU: I'm going to object to  
5 that question as indefinite and lacking any  
6 foundation.

7 BY MR SKILTON:

8 Q What vector was he experimenting  
9 with?

10 A As I explained earlier, McCafferty  
11 was experimenting with a filamentous bacterio phage  
12 vector, so it was very distinct from the Lerner  
13 Lambda bacterio phage.

14 Q Do you know whether or not any other  
15 lab was aware of your choice, your lab's choice, of  
16 the filamentous bacterio phage vector in the period  
17 from January 1st 1990 through April of 1990?

18 A I don't believe that anybody outside  
19 my own group knew that we were experimenting on  
20 bacterio phage at that point.

21 Q Did you say you don't believe?

22 A I don't believe anybody outside knew  
23 that we were experimenting on bacterio phage.

24 Q Was this a matter that you were, as  
25 head of this group and this lab, most concerned

1 about keeping confidential during this period?

2 A There were two aspects of keeping  
3 confidential. The first was to do with the  
4 scientific competition. But the other one was an  
5 understanding that I had with David Chiswell, and  
6 in fact the backers of Cambridge Antibody, PepTech,  
7 that we would make sure that we kept our work  
8 confidential so as not to prejudice any commercial  
9 filings.

10 Q And that was part of the concern  
11 of your personal decision not to attend this  
12 conference, is that correct?

13 A It's difficult for me to remember  
14 all the concerns I had, but there were several, as  
15 I've explained. There was the privileged position  
16 of SmithKline in the conference, who appeared to  
17 have provided money for drinks and perhaps was  
18 subsidising the costs of the conference, but really  
19 had not done any work. The people involved, as far  
20 as I was aware, had done no work in the particular  
21 field we were talking about, and it seemed as  
22 though, therefore, SmithKline was getting  
23 privileged access, commercial privileged access, to  
24 a body of academics.

25 Q In any event, was it also another

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1 concern that you did not want to disclose to any  
2 other business entity the particular work of your  
3 laboratory with respect to the bacterio phage  
4 vector at that time?

5 A Well, there would have been no  
6 obligation for me to disclose it, even if I had  
7 attended the conference. I simply could have dealt  
8 with other work that was going on in the  
9 laboratory.

10 But my particular reason for not  
11 going was I saw no point in going to a meeting,  
12 which was supposed to be open and free exchange of  
13 ideas, and then keeping a number of ideas totally  
14 secret to myself.

15 Q Now, you mentioned Dr Chiswell's  
16 position. Let me be specific in terms of some of  
17 the players here. Let's talk about the period of  
18 January of 1990 and Dr McCafferty.

19 Dr McCafferty had been at Amersham,  
20 is that correct, to your understanding?

21 A Yes.

22 Q And he came from Amersham to CAT, is  
23 that your understanding?

24 A He came to my laboratory.

25 Q What was --

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1 A From --

2 Q I'm sorry.

3 A From Amersham to my laboratory. You  
4 have to recognise, in those days CAT didn't have a  
5 physical existence, apart from in the form of the  
6 people and a bank account and Articles of  
7 Association. There wasn't a laboratory for  
8 Cambridge Antibody then.

9 Q Was there a contractual  
10 relationship, then, that Dr McCafferty had with  
11 your laboratory during this time that CAT had no  
12 physical existence?

13 A A contractual relationship that  
14 McCafferty had with the laboratory?

15 Q Yes.

16 A McCafferty was a visitor to the  
17 laboratory. He was employed by Cambridge Antibody  
18 Technology, but he was visiting the laboratory in  
19 order to work on projects which had my approval,  
20 and he was accepted in the same way as we'd accept  
21 an academic visitor.

22 Q Do you know who paid his salary  
23 during this period?

24 A I believe Cambridge Antibody paid  
25 his salary.

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1 Q Was there an arrangement at that  
2 time concerning any inventive activities that he  
3 might undertake during this period and who would  
4 get the benefit of them as between MRC and CAT?

5 A There was.

6 Q What was that arrangement?

7 A The arrangement had been discussed  
8 before McCafferty came into the laboratory.  
9 Obviously there were these two pressures.  
10 Cambridge Antibody had no laboratory. They also  
11 wanted to get involved with some aspect of  
12 repertoire technology, but had nobody familiar with  
13 it, and so part of the idea was that McCafferty  
14 would be trained in my laboratory in this field.  
15 So that was the interest from Cambridge Antibody's  
16 side.

17 I, at that stage, had a relatively  
18 small group, and I needed to try out a variety of  
19 ideas for looking at the repertoire technology;  
20 either looking at methods of screening or methods  
21 of selection. So, therefore, from my point of  
22 view, there was a genuine scientific interest in  
23 getting someone in who had, even though he wasn't  
24 formally trained in the field, could probably be  
25 trained up fairly readily.

1 So those were the interests of the  
2 different parties.

3 Now, at that stage, I had a central  
4 role in the founding of Cambridge Antibody  
5 Technology because I was the link to PepTech, who  
6 were the financial backers.

7 PepTech were also very keen to get  
8 on with the work, but obviously were concerned that  
9 any work that might take place in my laboratory,  
10 unless it was specified, that such work might  
11 simply just be taken by the MRC.

12 Now, equally well, Aaron Clug, who  
13 was then the director of the laboratory, was  
14 concerned that the rights of the MRC were  
15 represented, and that, essentially, ideas generated  
16 in the laboratory just didn't simply become the  
17 property of Cambridge Antibody or compromised by  
18 Cambridge Antibody Technology.

19 At that time I, therefore, had a  
20 discussion with Geoff Grigg and with David  
21 Chiswell, representing the Cambridge  
22 Antibody/PepTech side. They both were quite keen  
23 that McCafferty could come in to the laboratory and  
24 get started.

25 I had a discussion with Aaron Clug

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1 about how this might be arranged. And it was  
2 agreed that, basically, between us -- and  
3 I specifically asked Aaron this and he confirmed it  
4 to me, and probably also directly to David Chiswell  
5 and Jeff Grigg -- that work that originated from  
6 McCafferty's activities would belong to the MRC and  
7 Cambridge Antibody Technology jointly, which would  
8 mean, in the worst possible case, that, if we  
9 didn't come to an agreement on other aspects -- for  
10 example, that there was no agreement at that time  
11 to give Cambridge Antibody the rights to use the  
12 repertoire technology; that was still owned by the  
13 MRC -- so at that point it was agreed that,  
14 anything emerging from McCafferty's work, would  
15 jointly belong to the two.

16 So the MRC, essentially, at that  
17 point, didn't guarantee to make available the  
18 repertoire technology to Cambridge Antibody.  
19 I think that occurred some time later. Equally  
20 well, Cambridge Antibody knew that it couldn't be  
21 cut out of anything that McCafferty discovered.

22 Q Was there a document that reflected  
23 or stated this relationship, that you're aware of,  
24 during this period?

25 A I'm not aware of a document that

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1 states that. I mean, you have to remember, I mean  
2 we were working in a hurry, all the parties trusted  
3 each other, and, as far as the MRC was concerned,  
4 they felt very comfortable with the arrangement,  
5 because they had no guarantee on making available  
6 the repertoire technology which they thought was  
7 obviously going to be part of Cambridge Antibody's  
8 work.

9       PepTech felt less comfortable but,  
10 nevertheless, in the interests of getting going,  
11 they agreed to it, believing it would be possible  
12 to come to an agreement; which, in fact, is what  
13 happened.

14       Q The PepTech person was Geoff Grigg?

15       A I believe he was the main person  
16 involved in those discussions.

17       Q Would you describe this,  
18 generically, as a handshake type of an arrangement?  
19 Does that make sense to you to call it that?

20       A It's a handshake arrangement between  
21 people who'd known each other for a long time and  
22 trusted each other.

23       Q You've known Jeff Grigg for a long  
24 time?

25       A Yes, I have.

1 he went across to Australia and he'd come very much  
2 to like Geoff Grigg. And also George Brownlee, who  
3 was my immediate boss when I was working on the  
4 influenza virus, had been across there. So there  
5 were contacts between the laboratory in a general  
6 sense, and people I was associated with, that --  
7 I've forgotten how I started the sentence.

8       But, basically, there was knowledge  
9 on both sides of the other side. We'd sent people  
10 to Australia, and Geoff Grigg came across to the  
11 UK. And so, in the early eighties -- I think it  
12 was the early; perhaps it was later eighties -- he  
13 came into my laboratory, working in a fume cupboard  
14 at that stage. It was the only space we had  
15 available, was a fume cupboard.

16       Q You mentioned there was no agreement  
17 as to the repertoire technology at that time.

18 There was a later agreement?

19       A There was a later agreement,  
20 I believe, on the repertoire technology.

21       Q And I'll get to that, but I want to  
22 keep your attention, please, on this first window.

23       A Let's put it this way; there was no  
24 agreement, but there was an understanding that...

25       Of course, at that point we didn't

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1       Q Or you did at that time as well?  
2 Had known him?

3       A I had known him -- I had known him,  
4 I think, probably in the seventies and then again  
5 in the eighties, early eighties.

6       Q By reason of your -- was it  
7 a consulting relationship that you had with  
8 PepTech?

9       A No, I didn't have a consulting  
10 arrangement with PepTech. It was to do with...

11       Geoff Grigg was actually at the  
12 laboratory, at the MRC laboratory, working with  
13 Fred Sanger, when I first became a student there.  
14 And I met him, but I didn't get to know him very  
15 well at that point.

16       Later on, he had a brief sabbatical  
17 of a few months in the laboratory, and by that  
18 stage, I can't remember exactly how, I did get to  
19 know him, and I got on very well with him.

20       The early work that I was involved  
21 in doing with influenza virus involved two people  
22 from the laboratory going to Geoff Grigg's  
23 laboratory at North Ryde in Sydney. There was  
24 a post-doctoral worker I worked with -- sorry, he  
25 was then a PhD student -- who was Stan Fields. And

1 know what was going to materialise from  
2 McCafferty's work, and Cambridge Antibody had hopes  
3 of being able to utilise anything emerging from  
4 McCafferty's work, in combination with the basic  
5 repertoire technology.

6       From my soundings in the MRC, and  
7 I think particularly Sir Aaron who ran the  
8 laboratory, the kind of green light was given that,  
9 if everything went well and if the company was  
10 successful, then there shouldn't be a problem in  
11 making that available, at least on a non-exclusive  
12 basis.

13       Whether or not that repertoire  
14 technology would be made available on an exclusive  
15 basis, had been raised, but certainly no  
16 understanding had been reached on that.

17       Q And the basic repertoire technology,  
18 as I understand your answer, had already been  
19 developed? You earlier indicated that, I believe?

20       A Correct.

21       Q In fact, you had published on that  
22 technology?

23       A We had published both as a  
24 scientific paper and we'd also filed a patent  
25 application on it.

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1 Q This technology was, if you will,  
2 the battle between the Lerner group and the Winter  
3 group?

4 MR VEZEAU: Objection. I'm not  
5 certain what you mean by "this".

6 MR SKILTON: The repertoire  
7 technology.

8 THE WITNESS: Was the battle. Well,  
9 there essentially was scientific competition.  
10 I wouldn't refer to it as a battle, because it was  
11 more like a war, actually; a series of battles  
12 over a period of time in which we realised that,  
13 unfortunately, we were going to be in competition  
14 with this very large group in the States.

15 BY MR SKILTON:

16 Q Perhaps inartfully, and maybe not  
17 even correctly, but can this technology also be  
18 described as the library technology?

19 A If you want to do so, yes. If  
20 you're referring to the basic aspects of it, yes.

21 Q So when they came here, you hadn't  
22 yet reached an accommodation --

23 A Sorry, when who came here?

24 Q Let me try again.

25 A Sorry.

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1 Q You're fair in asking for a little  
2 more precision in the question.

3 When Dr McCafferty came to your lab  
4 in January of 1990, as I understand it, there  
5 hadn't been yet a resolution as to whether or not  
6 CAT would be given access to this basic repertoire  
7 technology?

8 A There was not an understanding --  
9 there was no agreement. There was an understanding  
10 that, if things worked out, they should get  
11 non-exclusive access to it, at least.

12 MR SKILTON: Let's change the tape.

13 VIDEOGRAPHER: This marks the end of  
14 videotape number 1 in the deposition of  
15 Dr Greg Winter. We're going off the record. The  
16 time is 10(sic).29.

17 (A short recess at 11.29 am)

18 (Resumed at 11.30 am)

19 VIDEOGRAPHER: This marks the  
20 beginning of tape number 2 in the deposition of  
21 Dr Greg Winter. We're on the record. The time is  
22 10(sic).30.

23 BY MR SKILTON:

24 Q We concentrated the last series of  
25 questions on Dr McCafferty.

1 MR VEZEAU: For the record, the time  
2 is 11.30. I understand on your tape it says 10.30.

3 VIDEOGRAPHER: I did say so at the  
4 beginning.

5 MR VEZEAU: Yes, thank you. I'm  
6 sorry, go ahead, John.

7 MR SKILTON: Okay, let me try again.

8 BY MR SKILTON:

9 Q We've been concentrating in the last  
10 series of questions on Dr McCafferty's role,  
11 initial role in the MRC lab.

12 Were there others from Amersham who  
13 came and worked in your lab during the same time  
14 window, the early period of January, February and  
15 March of 1990?

16 A I don't remember anybody.

17 Q Did Dr Chiswell at any time work in  
18 your lab during this time frame?

19 A It depends what you mean by "work".  
20 He came to visit the laboratory and we had  
21 discussions together, but he was not involved in  
22 any practical work.

23 Q Did Dr Chiswell bring with him the  
24 idea of displaying antibody or antibody fragments  
25 on the bacterio phage vector?

1 A As I understand it, Dr Chiswell had  
2 had this idea some time during the summer of '89,  
3 and so, therefore, he'd had the idea independently  
4 from us.

5 Q How did you find that out?

6 A I found out shortly before  
7 McCafferty started. Again, we were having to  
8 discuss the appropriate projects to do for John,  
9 and there was obviously the possibility of  
10 screening methods. There was also the possibility  
11 of various selection methods. So we had  
12 a discussion of those. And it turned out that,  
13 during that discussion, that Chiswell actually  
14 stated that he was very keen on the idea of using  
15 the phage, given that our lamB work, at that point,  
16 didn't seem to be working out.

17 Q And did he tell you how it was that  
18 he came upon the idea of using the bacterio phage  
19 vector?

20 A At that stage he didn't.

21 Q Did you find out at some stage?

22 A I found out later on that the idea  
23 had originated in a discussion that he had between  
24 Tony Pope and himself. And I think I found that  
25 out before the filing, the final filing in 1991.

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1 Q Now you're referring again,  
2 I assume, to the filing that was the first priority  
3 filing, that ultimately resulted in the 108 patent?

4 A Sorry, '91 would have been the  
5 filing -- it's a year after the first priority  
6 filing. The first priority filing was July 1990.  
7 I'm referring to July '91.

8 So I was not aware of exactly how  
9 the idea had come to Chiswell and McCafferty; at  
10 the point when McCafferty came to do the work or,  
11 indeed, at the time of the first filing.

12 Q You were aware that Chiswell had had  
13 the idea?

14 A Well, not really. I was aware --  
15 I was aware, let's put it this way, that clearly  
16 Chiswell, since I had not told Chiswell directly  
17 that we were in the process of undertaking  
18 selections with lamB, and indeed had considered  
19 phage, he appeared to have come up with the idea  
20 independently. So I didn't actually, at that  
21 stage, you know, subject him to a Spanish  
22 inquisition as to exactly how the idea had  
23 originated. I had assumed...

24 He referred actually to "we" and, by  
25 that, I had thought he had meant John McCafferty

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1 and himself. But, if I go back, I simply can't  
2 remember. I can't remember the details. But  
3 certainly I had the impression, at that stage, that  
4 it was John McCafferty himself. He certainly never  
5 said "I" at that point.

6 Q But then he didn't say Tony Pope at  
7 that point?

8 A He did not say Tony Pope at that  
9 point.

10 The problem really was that, at that  
11 stage, we were playing with lots of ideas and we  
12 really just didn't know whether that idea was going  
13 to work. So, later on, it assumed some  
14 significance. You can have people coming along and  
15 saying, "Oh, yes, I had that particular idea" when  
16 other people have gone to the significant trouble  
17 of demonstrating it. And at that point, you know,  
18 it was just another of the ideas that we wanted to  
19 play with. And, in fact, we were also interested  
20 in the idea of developing a screening system.

21 Q In your last answer the "we"s  
22 referred to MRC and your laboratory? Do you  
23 understand what I just asked you?

24 A Not really.

25 Q Let me try again.

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1 A I was referring to "we" in the  
2 context of Chiswell.

3 Q Let me see if I can... Again, as  
4 much precision at your recall permits here.

5 Before McCafferty actually undertook  
6 his work in January of 1990 directed at using the  
7 bacterio phage vector for displaying antibodies or  
8 antibody fragments, you had a conversation with  
9 Dr Chiswell concerning the idea of using such  
10 a vector. Is that a correct statement?

11 A Before McCafferty started work,  
12 I had a discussion with both of them. I can't  
13 remember whether it was at the same time or  
14 separately.

15 Q During this discussion, and prior to  
16 the commencement of the work, Dr Chiswell told you  
17 that he had the idea of using the bacterio phage  
18 vector?

19 A No. As I think I told you, he  
20 didn't say, "I have the idea of using the bacterio  
21 phage vector." He said, "We've had this idea that  
22 we should try." Or, "What about this idea?" It  
23 was something of that sort. You know, it was...

24 I mean, when I thought back to it,  
25 you know, I can't claim that he used the word

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1 "I" at all. In fact, for some reason, I had had  
2 the idea that because he used the word "we" or  
3 "We've had an idea", or something like that,  
4 I think he was referring to himself and McCafferty,  
5 but now I realise it may well have been Tony Pope.

6 Q Did you respond to him, at that  
7 time, that you had had a similar or the same idea?

8 A At that time I did, yes.

9 Q Can you recall, Dr Winter, what it  
10 is exactly that you said to him?

11 A No.

12 Q It was words to that effect?

13 A It was.

14 Q Did you reach agreement that, as  
15 a result of this conversation, that this is a  
16 project, then, that Dr McCafferty should explore  
17 experimentally?

18 A Yes, we did. There were two  
19 projects. I think the other project was screening;  
20 I think linking an enzyme to antibody single  
21 domains, but I can't be sure of that.

22 Certainly there were at least two  
23 projects which McCafferty was involved with, and  
24 that was one of them, and I gave my approval that  
25 we should go ahead with that project.

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1 Q Was this a project that Chiswell had  
 2 recommended to you, based on the fact that he had  
 3 had this idea for McCafferty?  
 4 A I'm sorry, could you repeat that?  
 5 Q I'll try to rephrase it.  
 6 A Yes, sorry.  
 7 Q Did Chiswell come with a  
 8 recommendation to you that McCafferty do this work  
 9 with respect to the bacterio phage vector?  
 10 A I don't remember it quite in that  
 11 form. I remember that it was more on the lines  
 12 about, "What about this idea?" And when we said,  
 13 "Well, actually, we've been thinking along similar  
 14 lines and, in fact, Andrew Griffiths has been  
 15 trying lamB, that an alternative might well be  
 16 filamentous bacterio phage", I think we both  
 17 decided this would be a great idea.  
 18 Q Did you have any such conversation  
 19 with Dr McCafferty himself, if you recall, at this  
 20 time?  
 21 A Obviously I had a discussion with  
 22 McCafferty about what he was doing, or what he  
 23 would be doing, but I simply can't remember how  
 24 that came about.  
 25 You know, there were meetings which

1 any meaning in reference to the experimental work  
 2 that McCafferty eventually undertook with respect  
 3 to the bacterio phage vector?  
 4 A In cloning an antibody gene into the  
 5 bacterio phage, my recollection is that we needed  
 6 to change the restriction sites in the vector, and  
 7 I believe that McCafferty used synthetical  
 8 oligonucleotides for that purpose, but I wasn't  
 9 aware that he had done that before he came.  
 10 Q Did you ever hear anything like that  
 11 at any time?  
 12 A No. You'll probably tell me it's in  
 13 McCafferty's testimony but, in fact, I didn't  
 14 notice it, or I didn't read the testimony like  
 15 that.  
 16 MR SKILTON: Number 9.  
 17 (Exhibit 9 marked for identification)  
 18 BY MR SKILTON:  
 19 Q Dr Winter, I'm placing in front of  
 20 you a document which has been marked as exhibit 9  
 21 in these proceedings. It bears the Bates stamp  
 22 number of CM040142 and proceeds through CM040146.  
 23 First question, have you ever seen  
 24 this document before?  
 25 A Just give me a chance to read it and

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1 we had together, certainly in the early... In  
 2 either very late '89 or very early 1990 there were  
 3 meetings that we had together and so, you know...  
 4 It wasn't the case that McCafferty  
 5 -- that, in other words, Chiswell and I simply  
 6 said, "Right, this is a good project. It's good  
 7 commercially. It's good scientifically. Go to it,  
 8 boy." I mean, it wasn't anything like that.  
 9 With any scientist coming to work in  
 10 the laboratory, you have to take them on board and  
 11 discuss the idea. Certainly McCafferty had  
 12 discussed it with Chiswell, I believe before  
 13 Chiswell raised it with me, because he used the  
 14 term "we", and I think McCafferty was there at that  
 15 stage.  
 16 Q Did McCafferty, at any time prior to  
 17 commencing the work, tell you that he had actually  
 18 already done some experimental work with respect to  
 19 this project?  
 20 A He didn't. In fact, I wasn't aware  
 21 of that. I'm not even aware of it now.  
 22 Q I'm going to mash a word here, but  
 23 hopefully it will permit you to answer the  
 24 question.  
 25 "Oligonucleotides", does that have

1 I'll try and tell you.  
 2 Q Indeed.  
 3 A (Witness reviewed the document)  
 4 Yes, I don't specifically remember this document,  
 5 but I do remember one of the points that was raised  
 6 in the document which I didn't agree with.  
 7 Q What point is that, please?  
 8 A It's on 040144, and it's the point  
 9 relating to intellectual property, the point that  
 10 says, "Greg and I have discussed the history with  
 11 Sir Aaron and have agreed that the invention was by  
 12 John and myself..." So that point I did not agree  
 13 with and I don't believe it's correct.  
 14 Q When was the -- strike that.  
 15 Have you ever seen this particular  
 16 document before today?  
 17 A I can't be sure of that. I think  
 18 I may have seen part of it recently. I mean, the  
 19 lawyers threw a number of things over the desk when  
 20 I was talking to them, but I don't specifically  
 21 remember that it was exactly this document.  
 22 I think there may have been this page, but there  
 23 may have been the others as well. I'm not sure.  
 24 Q In any event, the sentence you've  
 25 just referred to is one that was brought to your

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1 attention prior to this deposition?  
2 MR VEZEAU: Objection. I think now,  
3 the way that question is phrased, we're into work  
4 product certainly and privileged communications,  
5 and I will advise you, Dr Winter, that you need not  
6 answer that question on that basis.

7 MR SKILTON: I disagree with that  
8 instruction. I think I have a foundation to  
9 enquire. He has indicated he reviewed a portion,  
10 he believes, of at least a portion of this document  
11 in preparing for this examination.

12 BY MR SKILTON:

13 Q Is it your testimony that you read  
14 this sentence in preparing for your deposition,  
15 Dr Winter?

16 A As I understand it, my attorney is  
17 advising me that I should not reply to that.

18 MR VEZEAU: This is a different  
19 question.

20 THE WITNESS: Oh, I sec.

21 MR VEZEAU: So listen to this  
22 question.

23 (To the court reporter) Thelma, if  
24 you would please repeat it?

25 COURT REPORTER: "Q. Is it your

1 sentence that reads, and I'll read it again in the  
2 record: "Greg and I have discussed the history  
3 with Sir Aaron and have agreed that the invention  
4 was by John and myself...", and then it continues,  
5 that clause is an inaccurate clause?

6 A I believe, from what I remember,  
7 that indeed I did discuss the history with  
8 Sir Aaron, but I can't remember whether I discussed  
9 it with Chiswell or whether I discussed it  
10 separately. I did believe I discussed it actually  
11 separately with Sir Aaron. So I represented, or at  
12 least I had a discussion with Sir Aaron. I believe  
13 Chiswell had a discussion with Sir Aaron. But I  
14 certainly had not agreed that "the invention was by  
15 John and myself".

16 At the early stages, one of the  
17 points that Chiswell raised was whether the  
18 insertion point, the precise insertion point in the  
19 vector was a key aspect of the invention, and that  
20 one of the points he asked me is, "Well, do you  
21 agree that, if that first insertion point" -- I've  
22 forgotten what it was they'd taken or whether they  
23 had gone two residues in from the end terminus;  
24 I can't actually exactly remember where the fusion  
25 was -- "if that exact fusion point was indeed a key

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1 testimony that you read this sentence in preparing  
2 for your deposition, Dr Winter?"

3 THE WITNESS: Yes, I did.

4 BY MR SKILTON:

5 Q Was that the first time, to your  
6 best belief and knowledge, that you ever read that  
7 sentence?

8 A I can't be sure. What I remember is  
9 that, during the early discussions with the MRC,  
10 that Chiswell represented that the invention was by  
11 John and himself, and this was something that we  
12 did not agree with. But whether I saw it in a  
13 document at that time... Actually, I don't think  
14 I did, or I think I may have seen this for the  
15 first time. But I was aware of that sentiment, and  
16 I was also aware that we actually -- that the MRC  
17 didn't accept that.

18 Indeed, when we had further  
19 discussion about it in defining what was the  
20 invention, the contributions made by individuals,  
21 that we decided that that was not sustainable, and  
22 I think that was a point in which Chiswell agreed.

23 Q Let me break it down a little bit  
24 here.

25 Is it your statement that the

1 aspect of the invention, then didn't I agree that  
2 the invention was essentially by John and himself  
3 since they had chosen that insertion point?" And  
4 I had to accept actually that the choice of the  
5 insertion point I had believed was made by John  
6 McCafferty.

7 So if it had been that the exact  
8 insertion point was the invention then, in this  
9 kind of rather rambling discussion I had with Dave  
10 where we were trying to identify what the key  
11 features of the invention were, then it might be  
12 the case the invention was by John, and possibly  
13 Dave to the extent that he may have been involved  
14 in agreeing the sequence of the oligonucleotide to  
15 make that insertion.

16 But actually I didn't have the same  
17 view of the patent. I actually felt that, and  
18 always did feel at the very beginning, that the  
19 patent was about the demonstration of folding, the  
20 production of folded antibody on the surface of  
21 phage, and the ability to use phage as a selection  
22 vehicle. In fact, that was a view which both John  
23 and Dave agreed with me, after some early  
24 discussions.

25 My belief about this statement is it



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1 was more to do with Chiswell who, at this point, is  
2 negotiating commercially with the MRC. He's  
3 negotiating with Martin Wood -- I think it's Martin  
4 Wood; it looks like his writing -- of MRC  
5 technology transfer, and I believe that he  
6 represented what he saw as the best case for  
7 Cambridge Antibody.

8 Q By a representation, nevertheless,  
9 with which you disagreed?

10 A It's a representation -- it's  
11 a representation I did disagree with at the time.  
12 I made it clear I disagreed. And the only  
13 circumstance in which I might have agreed it,  
14 certainly as a scientist but not as a patent  
15 lawyer, would have related to the idea that the  
16 exact insertion point was central to the invention  
17 and no other insertion point would work. So that  
18 was the discussion that we had.

19 At that stage I think, in fact,  
20 David Chiswell did believe, transiently, that that  
21 was a key feature of the invention, but I don't  
22 think that this is...

23 I think this whole sentence is  
24 contradictory, and I think has to be seen as  
25 a commercial document, the process of negotiation

1 MR SKILTON: (To the court reporter)

2 Please.

3 THE WITNESS: I've lost track of it.

4 MR VEZEAU: Thelma, would you read  
5 it back, please?

6 COURT REPORTER: Certainly.

7 "Q. In fact, you believe that it  
8 is false that you ever agreed that 'the invention  
9 was by John and myself', don't you?"

10 THE WITNESS: I've explained to you  
11 what I believe the invention was and that,  
12 therefore, with that view of the invention, this  
13 statement is false.

14 BY MR SKILTON:

15 Q Now, you indicated that you might  
16 have seen pages of this document. Let's go back  
17 and identify a little bit some of the players. If  
18 you'll go to exhibit 9, the first page?

19 You earlier stated who Martin Wood  
20 is. What was Martin Wood's position at that time  
21 with the MRC?

22 A I don't know the formal title of his  
23 job, but he was in the technology transfer office  
24 at MRC head office.

25 Q Is it correct that, as of the date

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1 with other people in the MRC, and certainly not  
2 been passed over. I'm fairly sure it wouldn't  
3 necessarily be accepted that I would see it. In  
4 fact, I don't think I did see it.

5 Q In fact, you believe that it is  
6 false that you ever agreed that "the invention was  
7 by John and myself", don't you?

8 MR VEZEAU: I'm going to object to  
9 that because I think that question has been asked  
10 and answered.

11 MR SKILTON: I don't think it's been  
12 directly answered, and I ask that it be answered.

13 MR VEZEAU: Well, I mean, you're  
14 characterising something as false, and I think the  
15 witness has explained different views and, in that  
16 sense, I do believe it's not a question of falsity.  
17 I believe it's a question that's been asked and  
18 answered in quite some detail.

19 MR SKILTON: You have made your  
20 objection. You need not argue answers.

21 MR VEZEAU: Thanks.

22 MR SKILTON: Would you answer the  
23 question, please, Dr Winter?

24 THE WITNESS: Can you repeat the  
25 question, please?

1 of July 30th 1990, as you read the document, there  
2 was not yet any formal agreement -- by that I mean  
3 a written agreement -- in place between MRC and  
4 CAT?

5 A I don't believe there was any  
6 written agreement in place. Well, hang on.

7 Q I'm sorry.

8 A Sorry. Yes, I don't believe there  
9 was a written agreement in place between Cambridge  
10 Antibody and the MRC. However, there was, before  
11 John McCafferty came into the laboratory, there was  
12 a document he signed, which is the MRC visitors'  
13 form, which actually touched on any rights that he  
14 himself might have in respect of inventions arising  
15 from the work he was doing. So in that indirect  
16 sense there was something, but I don't believe  
17 there was a formal agreement between MRC.

18 Q The document -- and I'm going to go  
19 through it more thoroughly with you. That's a  
20 warning Dr Winter, in the sense if you want to read  
21 it over the noon hour to be prepared on it, that's  
22 your right to do that.

23 But it talks about a form Y in this  
24 document. Is that what you were just alluding to?

25 A I believe it's form Y, yes.

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1 Q This is a form he would have signed  
2 and did sign, McCafferty?

3 A Yes, he did sign it.

4 Q Have you ever seen that signed form?

5 A I must have seen it a long time ago,  
6 yes.

7 MR SKILTON: On this record, I would  
8 request that signed form.

9 BY MR SKILTON:

10 Q Now, Diana Dunstan was whom at that  
11 time?

12 A I think at that stage she was the  
13 head of MRC administration at the laboratory of  
14 molecular biology.

15 Q Do you recognise the handwriting on  
16 page 143, the second page of this document, at the  
17 bottom?

18 A I said earlier I thought that was  
19 Martin Wood's handwriting.

20 Q All right.

21 A It looks familiar, but I couldn't be  
22 sure of it.

23 MR SKILTON: I am not able to fully  
24 read the script. Some of it seems to have been  
25 either cut off in copying or simply a bad copy of a

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1 document.

2 Counsel, is there an original of  
3 this document available to Dr Winter and myself?

4 MR VEZEAU: I don't think available.

5 What you have appears to correspond to the best  
6 copy we have.

7 MR SKILTON: I will try to read it  
8 into the record, but I do not purport to be an  
9 expert in this script.

10 MR VEZEAU: Nor would we agree with  
11 your characterisation of the text.

12 MR SKILTON: Well, I'm not trying to  
13 characterise it. I'm trying to get it read into  
14 the records.

15 Instead of having me do it, let me  
16 ask the witness.

17 BY MR SKILTON:

18 Q Dr Winter, are you able to read what  
19 is said at the bottom here?

20 A Not with certainty, no. Obviously  
21 bits I can read. Other bits I might be able to  
22 make sense of if I thought about it, but the most  
23 straightforward would be to get Martin Wood, if  
24 he's the author of it, to read his own writing.

25 MR SKILTON: I will ponder it over

1 then myself, and not waste the record time doing  
2 it.

3 THE WITNESS: Okay.

4 BY MR SKILTON:

5 Q Look then to page 144, the third  
6 page of the document, CMO40144.

7 A Yes.

8 Q Under item 2.1, history, did you  
9 review that in preparing for today's deposition,  
10 that statement?

11 A To the extent I believe I saw this  
12 page, I have looked at it. I wouldn't say I've  
13 reviewed it or thought a great deal about it.

14 Q Let me read it so there's no  
15 confusion as to what my reference point is. I'm  
16 not going to read the whole. I'm going to read the  
17 first two sentences into the record, and I'll ask  
18 you a question after each sentence respectively.

19 Do you understand this document to  
20 have been authored by Dr Chiswell?

21 A Well, to the extent that I have not  
22 seen it before, and to the extent that it has  
23 Cambridge Antibody Technology LT on the top, and  
24 appears to be a letter from Chiswell to Martin  
25 Wood, then, yes, I do assume he's the author. But,

1 as I say, I can't vouch for that.

2 Q Then we'll have Dr Chiswell vouch  
3 for it tomorrow.

4 A Okay.

5 Q But let's assume, you and I, that he  
6 is the author, and, if we're wrong, we'll be  
7 corrected in due course.

8 A Okay.

9 Q "Many people in the field, including  
10 independently Greg and myself, realised that  
11 expressing antibodies on the surface of bacteria or  
12 phage would be attractive."

13 Does that, to you, appear to be an  
14 accurate statement of the situation as it existed  
15 prior to Dr McCafferty beginning the work in his  
16 laboratory? In your laboratory, I'm sorry.

17 A Well, I wasn't aware that many  
18 people in the field were realising expressing  
19 antibodies on the surface of bacteria or phage  
20 would be attractive. I'd have to say I wasn't  
21 aware of many people who had even expressed that  
22 view.

23 Q Were you aware of any persons, other  
24 than yourself, or laboratories other than yourself  
25 and Dr Winter(sic)?

1 MR VEZEAU: This is Dr Winter.  
 2 BY MR SKILTON:  
 3 Q I'm sorry; Dr Chiswell. I'll  
 4 rephrase the question.  
 5 Were you aware of any laboratories  
 6 or people, other than yourself and Dr Chiswell, who  
 7 realised this?  
 8 A That expressing antibodies on the  
 9 surface of phage or bacteria would be attractive?  
 10 Yes, I am. I remember only one person --  
 11 Q Who was that?  
 12 A -- who made any expression of this  
 13 view, which was a person called Jannie Cesarini.  
 14 Q Could you spell his name, please?  
 15 A No, it's Italian. It's something  
 16 like C-e-s-a-r-i-n-i. Something like that.  
 17 Q How was it that you knew he was  
 18 interested?  
 19 A Because he contacted me.  
 20 Q When was this?  
 21 A I believe this was some time in  
 22 January or February of 1990.  
 23 Q Did he explain why he was contacting  
 24 you then?  
 25 A I can't remember exactly. I do

1 remember that he asked me whether I thought it  
 2 would be a good idea to try to get -- because he'd  
 3 seen the work by Lerner, and he'd seen our work,  
 4 and he asked did I think it would be a good idea to  
 5 try to get antibodies expressed on the surface of  
 6 phage.  
 7 Q When you say "our work", are you now  
 8 talking about your work in repertoire or libraries?  
 9 A The work on repertoires and  
 10 libraries, yes.  
 11 Q Did he tell you how it was that he  
 12 had come to this idea or realisation?  
 13 A I don't think so, no. I think he  
 14 said he thought it would be a good idea. Jannie  
 15 Cesarini had worked in the MRC laboratories some  
 16 years' earlier and had been involved in Lambda  
 17 expression.  
 18 Q Was he with a particular company or  
 19 laboratory at this time?  
 20 A He was with a laboratory. I can't  
 21 remember whether, at that stage, he was attached to  
 22 a company or not, or if he ever had. I think he  
 23 had an association with an Italian group called  
 24 IRBM but I don't know whether he was employed by  
 25 them or not. He was based in Italy at that stage.

1 He'd worked in the MRC laboratories some years'  
 2 earlier and then, subsequently, was making his  
 3 career in Italy.  
 4 Q How did you respond to him in this  
 5 period, roughly January of 1990?  
 6 A I said it was a good idea.  
 7 Q Do you know whether or not he was  
 8 pursuing it, independent of you?  
 9 A I don't think he had pursued it  
 10 independently of me. Well, at that point. I mean,  
 11 he didn't seem to have any results. He was just  
 12 asking whether I thought it was a good idea, and  
 13 I said, yes, I thought it was a good idea.  
 14 Q Is it correct, then, that other than  
 15 Jannie Cesarini you were unaware of any other  
 16 person who had realised that expressing antibodies  
 17 on the surface of bacteria or phage would be  
 18 attractive?  
 19 A Difficult to be sure. I mean,  
 20 I think, because I had been discussing things with  
 21 Cesar Milstein, it was also clear that he thought  
 22 it was a great idea. But in terms of people  
 23 externally, I wasn't aware. I don't remember, at  
 24 the moment, anyone else who I was aware of who  
 25 thought it would be worth trying.

1 You know, obviously, if we look at  
 2 Milstein; he was an expert in the field of  
 3 antibodies. Look at Cesarini; he was an expert in  
 4 the field of bacterial genetics. So these were  
 5 people who -- and they both had -- obviously  
 6 Milstein is in the lab, and Cesarini had been in  
 7 the laboratory, so this was, kind of, rather  
 8 a discussion of what you might say is, sort of,  
 9 laboratory ideas, and I felt I couldn't  
 10 unfortunately at that point be open to him.

11 I felt rather embarrassed in dealing  
 12 with Cesarini because I would have liked to have  
 13 said, "Well, we're working on it." But, in fact,  
 14 because of the agreement with Dave Chiswell,  
 15 I couldn't.

16 Q In the next sentence, in context,  
 17 again under 2.1 reads: "The problem has been how  
 18 to make it work."

19 Does that sentence today have any  
 20 meaning to you in reference to the context in which  
 21 it was written in this document?

22 A I think the context in which it was  
 23 written was that, as far as Dave was concerned, at  
 24 that time when he was writing this document, that  
 25 the point of fusion was obviously important, and

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1 there are many other features that might well be  
2 important.

3 Q Did he discuss with you what  
4 features there were and what would be important and  
5 what would have to be done and what the problem  
6 was? That's a multiple question but I'm trying  
7 give you --

8 A Look, we had a very broad discussion  
9 at the very beginning of the uncertainties of the  
10 work, all the things that could go wrong. And,  
11 indeed, the other issue is demonstrating it because  
12 there's a question of experimental design, of  
13 choosing an experiment that would enable one to  
14 prove that the antibody was expressed on the  
15 surface and phage and would fold in a functional  
16 form.

17 Q Was there an experiment that he  
18 identified as one that he wanted to follow in terms  
19 of steps? "He" being Chiswell, and the time being  
20 prior to the beginning of McCafferty's work?

21 A I simply can't remember.

22 Q And can you remember his list or  
23 litany of possible problems at that time?

24 A At that time I think I was the main  
25 person concerned with possible problems because

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1 I wanted to anticipate the problems and make sure  
2 we made the right design and experiment.

3 Q And did you help design that  
4 experiment?

5 A Yes, I did.

6 Q What were the points, the problem  
7 points, that you designed around, so to speak, or  
8 designed to meet?

9 A Well, I think one of my concerns was  
10 that, if we went back to the early Smith work, that  
11 what this had shown was expression of a peptide on  
12 the surface of phage, and it had involved a  
13 selection of those phages with polyclonal  
14 antibodies. And it was well-known that, first of  
15 all, peptides had a disordered structure and that,  
16 furthermore, polyclonal antibodies would often  
17 recognise linear forms of peptide.

18 So that my concern was, if we  
19 expressed the antibody on the surface of phage, how  
20 would we know that it's folded? If, for example,  
21 we had anti-serum against the displayed antibody,  
22 and repeated the experiment in the same way as  
23 Smith, how would we then know that the antibody was  
24 folded on the surface of phage? So I was very keen  
25 to use an antibody that we had worked on, which was

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1 the D1.3 antibody, which is directed against hen  
2 egg white lysozyme.

3 Now, this antibody had been solved  
4 by Roberto Poljak and his group --

5 Q Had been what, I'm sorry?

6 A Solved. In other words, the  
7 structure of the antibody had been solved  
8 crystallographically by Poljak.

9 And what this showed was that the  
10 antibody -- sorry, that the antibody was making  
11 contact with lysozyme across a wide surface, so we  
12 could define that the antibody had to be folded in  
13 order to be able to bind lysozyme because there  
14 were several, what are called, discontinuous  
15 epitopes. So several bits of the antibody surface,  
16 from different parts of the polypeptide chain, came  
17 together to bind to lysozyme.

18 So that I think the D1.3 antibody  
19 was something that I suggested we should work with  
20 because we knew, if we could demonstrate that the  
21 phage bound to lysozyme, then this would show,  
22 would be one way of showing, that the antibody was  
23 folded on the surface. And, you know, I had  
24 discussions with Chiswell about it, and McCafferty  
25 and me. They agreed.

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1 Q Were there any other problems that  
2 you identified at this time? And, again, this time  
3 being prior to the commencement of the experiment  
4 by Dr McCafferty?

5 A Well, again, the other question is:  
6 How do we show that the thing has got binding  
7 activity?

8 Now, in Smith's papers they had  
9 shown binding activity implicitly by selecting the  
10 phage, by demonstrating that they got enrichments  
11 of filamentous bacterio phage.

12 One of the points that I suggested  
13 was that we should use a direct binding assay; and  
14 that was the binding of -- essentially, to bind the  
15 phage to a lysozyme coated surface and then to come  
16 along with anti-phage anti-serum. And, in fact,  
17 the reason why that was possible was because, for  
18 some years, some years' earlier, I had got hold of  
19 a stock of, I think it was, sheep anti-phage  
20 anti-serum. At that stage we were looking at the  
21 use of that serum to purify filamentous bacterio  
22 phage for sequencing, and, rather than using  
23 polyethylene glycol, which was the standard, I was  
24 quite interested in the use of the anti-serum. So,  
25 therefore, I had the anti-serum -- actually, quite

1 a lot of it -- at the back of the freezer. So,  
2 being aware of that reagent, I would say, "Well,  
3 hey, look, let's go and do it."  
4 Now, I can't remember exactly where  
5 the idea came from, but certainly the availability  
6 of that reagent was something that makes me believe  
7 I may have suggested it. But, equally well, it may  
8 have been suggested by Chiswell or McCafferty. But  
9 certainly I had the reagent to hand for  
10 that purpose.

11 Q Any other problem that you felt  
12 needed to be addressed experimentally?

13 A Well, one of the things that was  
14 worrying me about the whole project -- well, let's  
15 say, there were obvious things like whether the  
16 antibody would compromise phage infectivity.  
17 Actually, that was something that was worrying  
18 Chiswell and McCafferty; it, you know, was a  
19 possibility.

20 I was much more worried by other  
21 things; that was that, if the antibody folded up,  
22 it might well be in equilibrium with an unfolded  
23 form. And so I was concerned about essentially  
24 having linear epitopes on the surface of the phage  
25 as well as the folded antibody.

1 Now, that was worrying because, if  
2 you have an equilibrium -- or, indeed, even if  
3 there weren't an equilibrium; even if they'd been  
4 trapped in different confirmations; that I had  
5 some mixture of folded and some mixture of unfolded  
6 or incorrectly folded antibody -- although the  
7 ELISA, that is the use of the direct binding assay  
8 that I described to you, would identify the  
9 presence of folded antibody, which, of course, is  
10 very encouraging, when we moved to the selection  
11 stage, we were obviously worried about whether this  
12 unfolded antibody might be sticky and compromise  
13 the selective process.

14 So, essentially, if we had a high  
15 background of binding of the filamentous phage,  
16 this could compromise the specific binding signal  
17 and mean that the selections didn't come to  
18 anything. So I was rather concerned about that.

19 That was a problem that Smith hadn't  
20 faced, because he had anti-serum which was binding  
21 to, essentially, unfolded peptide. So his  
22 anti-serum should recognise the various  
23 confirmations of unfolded peptide that were  
24 present. In our case, we might have to distinguish  
25 between a folded and unfolded antibody.

1 So I was concerned about the  
2 background binding of phage.

3 Q Any other --

4 A And --

5 Q -- concerns? Sorry.

6 A So, therefore, as a way of dealing  
7 with that, and, again, I can't remember exactly who  
8 suggested this, we undertook, to the best of my  
9 recollection -- we, in fact, did observe that there  
10 was non-specific binding of the phage -- I can't  
11 remember exactly whether it was due to the antibody  
12 or was just an intrinsic feature of phage -- but we  
13 introduced the use of milk powder in the binding  
14 and the selection systems.

15 And that was something -- which,  
16 again, I can't be sure who suggested that -- but it  
17 was something that I could very well have suggested  
18 because we'd been working with antibody single  
19 domains and we knew that we had a high background,  
20 if you just took an isolated antibody single domain  
21 and tried to do an ELISA reaction to look at the  
22 direct binding of that, and we could destroy the  
23 unspecific binding by the use of milk. So that was  
24 another experimental feature that we had to build  
25 into this project.

1 Q I'm trying here to give you the  
2 opportunity to give me your full list, if you can.  
3 So I'll press you one more time. Is there  
4 something else that --

5 A Well, look --

6 Q -- you might want to say here?

7 A I don't think I want -- I don't want  
8 to say any more. Those were the things that seemed  
9 to me to be the most important. There may well  
10 have been other -- you know, until you do it, you  
11 simply don't know.

12 But they were the ones that were  
13 uppermost in my mind at the time, particularly in  
14 terms of the experimental design; how we designed  
15 the experiment in such a way that we can avoid  
16 these problems arising.

17 Q Now, did I understand you that, in  
18 assessing what the problems might be, you studied  
19 the Smith articles? Is that correct?

20 MR VEZEAU: I'm going to object to  
21 that question as lacking a foundation.

22 THE WITNESS: Obviously what I did  
23 was to study -- I remember looking at the first  
24 article, the Smith '85 article and, as I think  
25 I've explained earlier, there were a number of

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1 limitations of that, including the fact that one is  
 2 cloning into inside a protein gene.  
 3 As I said earlier, I was aware at  
 4 that stage it was also possible to go into the end  
 5 terminus, but I don't remember at that point  
 6 reading the Parmley and Smith paper. I might well  
 7 have done but I simply don't remember it.

8 BY MR SKILTON:

9 Q The next sentence in context then --  
 10 again, going back to 2.1, page 0144 under history,  
 11 reads as follows: "John McCafferty and myself  
 12 devised a potential solution and made the key  
 13 oligonucleotides during the Autumn of 1989."

14 Did they discuss -- either one of  
 15 them discuss that sentence with you prior to  
 16 McCafferty undertaking his experiment?

17 A All I remember was that they told me  
 18 that they had -- that they had thought about it to  
 19 the extent that they had come up with a design.  
 20 I don't remember them telling me that they had  
 21 actually done it.

22 Q What was the design that they told  
 23 you they had come up with?

24 A Well, it was a cloning site at the  
 25 end terminus of the antibody genes. But I can't

1 they had already selected was what was used  
 2 experimentally, was it not, by McCafferty?

3 A They cloned it at the end terminus  
 4 or within a residue or two of it.

5 Q And that was, essentially, work that  
 6 they had brought with them to your laboratory, is  
 7 that right?

8 MR VEZEAU: I object to that as  
 9 having no foundation, and that is also indefinite.

10 THE WITNESS: Sorry, they had  
 11 brought? Sorry, could you repeat the question?  
 12 I got a bit lost there.

13 MR SKILTON: I'll rephrase it.

14 THE WITNESS: Thank you.

15 BY MR SKILTON:

16 Q When was it, to your understanding,  
 17 that they had created this design?

18 MR VEZEAU: I object to that as  
 19 being indefinite with respect to "design".

20 MR SKILTON: I'm using, I believe,  
 21 the term the witness used in his last answer.

22 MR VEZEAU: Same objection.

23 MR SKILTON: (To the witness) You  
 24 may answer, subject to the objection.

25 THE WITNESS: Sorry, so the question

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1 remember if the vector they had used already had  
 2 a cloning site there or whether they were,  
 3 essentially, designing a cloning site to  
 4 accommodate the antibody fragments with the cloning  
 5 sites that we'd been using, which were introduced  
 6 by the PCR oligos.

7 Q And it's that design of the cloning  
 8 site that they contended was the invention, is that  
 9 correct?

10 MR VEZEAU: I object to that as  
 11 lacking a foundation.

12 THE WITNESS: At one point, when we  
 13 were discussing the early work, as I've explained  
 14 to you, they believed that the cloning site might  
 15 be important. So we're talking about very -- we're  
 16 talking about directly after the antibody proved to  
 17 be expressed, they felt that might be a key  
 18 element.

19 I think he's over-stating the case  
 20 at this particular point. It's certainly not  
 21 a view that I would agree with, that those  
 22 oligonucleotides were key. I didn't agree with it  
 23 then. I don't agree with it now.

24 BY MR SKILTON:

25 Q The end terminus, though, that which

1 is? Can you repeat the question? I'm sorry.

2 MR SKILTON: It's all right.

3 THE WITNESS: The last question.

4 COURT REPORTER: "Q. When was it,  
 5 to your understanding, that they had created this  
 6 design?"

7 THE WITNESS: Created the design?

8 So, in other words...

9 I don't know when they made the  
 10 phage, if that's what you mean, with the altered  
 11 site; whether they had made it before or whether  
 12 they made it in the laboratory when John McCafferty  
 13 started the work.

14 I was certainly aware that, before  
 15 they came, they said that they had designed an  
 16 oligonucleotide for this purpose, but I simply  
 17 don't remember whether they brought with them phage  
 18 in which they had made these changes.

19 MR SKILTON: Why don't we take our  
 20 lunch break now -- it's almost 12.30 -- and  
 21 commence again at 1.30, if that's appropriate for  
 22 everybody?

23 MR VEZEAU: That's fine.

24 VIDEOGRAPHER: We're going off the  
 25 record. The time on the video monitor is 11.24.

1 (A short recess at 12.24 pm)  
 2 (Resumed at 1.33 pm)  
 3 VIDEOGRAPHER: We are back on the  
 4 record. The time is 12(sic).36.  
 5 BY MR SKILTON:  
 6 Q Dr Winter, when was the first time  
 7 you met John Walton, the gentleman in the room  
 8 today?  
 9 A Sean Walton. I don't know.  
 10 Q Have you had more than one meeting  
 11 with Mr Walton over time?  
 12 A Yes, I have.  
 13 Q What's the circumstance of the  
 14 meetings or meeting? Is it in relation to patent  
 15 prosecution issues?  
 16 A Yes, I think so. I think I met him  
 17 once at a social function, to my surprise.  
 18 Q I'm going to focus you on the US  
 19 108 patent and the application that was filed in  
 20 the United States.  
 21 Do you recall whether or not you  
 22 have seen any filings by CAT in the United States  
 23 patent office with reference to the 108 patent?  
 24 A I have no specific recollection of  
 25 it.

1 Q Did you ever talk to attorney David  
 2 Clough, another person in the room today, prior to  
 3 getting ready for your deposition?  
 4 A I think I met him. It may have been  
 5 many months' ago or at an earlier stage. I simply  
 6 can't remember for sure.  
 7 Q Might it have been in preparation  
 8 for your deposition for the last case, the 793  
 9 case?  
 10 A Possibly.  
 11 Q Do you recall whether or not you  
 12 ever worked with or consulted with Mr Clough with  
 13 reference to the prosecution of the 108 patent in  
 14 the United States patent office?  
 15 A I don't specifically recollect it.  
 16 Q Do you recall working with attorney  
 17 Walton with reference to the European patent  
 18 proceeding relating to the European equivalent on  
 19 the 108 patent, the McCafferty patent?  
 20 A I don't recollect it. But I have to  
 21 say, all of these, as far as I'm concerned, are  
 22 details. I wouldn't necessarily be expected to  
 23 recollect unless he'd played a major role. I can't  
 24 say that I didn't necessarily get a phone call from  
 25 him on that subject, or I may even have signed

1 something; you know, written a letter to him at  
 2 that stage. But I simply don't remember it and I  
 3 don't think it was important.  
 4 Q Well, is it fair to say that, from  
 5 your point of view, you didn't play -- you did not  
 6 play a major role in the prosecution of the  
 7 108 patent?  
 8 A The prosecution of the 108 patent in  
 9 the United States now --  
 10 Q Yes.  
 11 A -- you're referring to? I would say  
 12 that the prosecution is the state at which it goes  
 13 from filing. You're looking at the period of  
 14 filing on to grant?  
 15 Q Right.  
 16 A Is that what you're talking about?  
 17 Q Yes.  
 18 A I would say that I didn't play  
 19 a major role in the prosecution.  
 20 Q Can you describe any role that you  
 21 played in the prosecution of that patent, the 108  
 22 patent, in the United States patent office?  
 23 A Well, I probably played some role  
 24 but I can't actually remember what it was.  
 25 I was mainly concerned with the

1 repertoire patent and discussions about that.  
 2 Obviously questions in relationship to the  
 3 McCafferty patent would come my way from time to  
 4 time, but certainly I was less involved.  
 5 Q Do you recall any questions that did  
 6 come your way from time to time with reference to  
 7 the --  
 8 A No.  
 9 Q -- McCafferty patent?  
 10 A No.  
 11 Q Let me direct some questions with  
 12 respect to the European patent, the version of  
 13 McCafferty, and specifically after oppositions were  
 14 filed in Europe.  
 15 Are you aware that, in fact,  
 16 oppositions were filed in Europe?  
 17 A I think I was told oppositions were  
 18 filed, yes, although whether there was one or two  
 19 I don't know.  
 20 Q Did you read any of the opposition  
 21 papers?  
 22 A I don't think so.  
 23 Q Do you recall whether or not you  
 24 read any arguments that were made by Cambridge in  
 25 response to any of the opposition papers?

1 A I don't think I did. Can you tell  
 2 me --  
 3 Q I'm sorry, would you repeat that?  
 4 A I said I don't think I did. Can you  
 5 -- it might help to refresh my memory if you can  
 6 tell me what period this was.  
 7 Q We're talking -- let's talk about  
 8 both in a window of, roughly, in the US 1995,  
 9 roughly, through 1999. So a 4-year period.  
 10 A I see, okay. So 1995 to 1999.  
 11 Whereas it is quite likely that  
 12 I would have had discussions with Ron Jackson in  
 13 Cambridge Antibody Technology before 1996, I had  
 14 very little to do with Cambridge Antibody after  
 15 1996. And so, therefore, it would have had to be  
 16 a specific request put to me, and I certainly have  
 17 no recollection of it.  
 18 Q With respect to the opposition  
 19 proceedings in the European patent office -- I'll  
 20 give you the range of, roughly, 1997, January 1st  
 21 1997, through today -- have you had any role,  
 22 active role or consulting role, with respect to  
 23 those opposition proceedings?  
 24 A I certainly have not had an active  
 25 role. It's quite possible I could have been asked

1 questions that call for yes or no.  
 2 BY MR SKILTON:  
 3 Q Well, I don't want to expose  
 4 attorney/client information. Really I'm giving  
 5 you, if you will, the privilege of answering yes or  
 6 no without disclosing content. That's the way  
 7 I phrased the question.  
 8 A Could you repeat the question,  
 9 please?  
 10 Q Yes, I will.  
 11 A I'll try to answer it, if I can,  
 12 yes.  
 13 Q Did you ever obtain an understanding  
 14 -- I'll rephrase it -- as to the difference  
 15 between the prosecution of a United States' patent  
 16 and the prosecution of a patent in the European  
 17 patent office?  
 18 A Well, I was aware there were some  
 19 differences; one of which appeared to be  
 20 enablement.  
 21 Q What is your understanding of that  
 22 difference?  
 23 A Well, my understanding of it, and  
 24 I could be wrong, was that --  
 25 MR VEZEAU: Doctor, if this

1 a question or two, but I don't think so.  
 2 Q You were move actively engaged in  
 3 the repertoire or library patent --  
 4 A Correct.  
 5 Q -- in the US. Who was your lawyer,  
 6 US lawyer, in prosecuting that patent, if you  
 7 recall?  
 8 A The US lawyer? I don't think I have  
 9 a recollection of that.  
 10 Q Can you tell me who the UK lawyer  
 11 was?  
 12 A I think the UK was Sean Walton.  
 13 Q Have you been advised as to the  
 14 difference between European patent prosecution  
 15 proceedings and US patent prosecution proceedings?  
 16 MR VEZEAU: Now you're getting --  
 17 you're specifically asking the witness as to what  
 18 he was advised of.  
 19 (To the witness) And I would  
 20 caution you that if, in responding to this  
 21 question, you have to reveal advice you received  
 22 from your counsel, you should not do so.  
 23 MR SKILTON: The question called for  
 24 a yes or a no.  
 25 THE WITNESS: I never answer

1 understanding resulted from advice you received  
 2 from your counsel, you should not divulge that  
 3 advice.  
 4 If you have some other  
 5 understanding, that's fine, but you are not to  
 6 reveal the discussions you've had with your  
 7 counsel.  
 8 THE WITNESS: No, I had an  
 9 understanding which was nothing to do with advice  
 10 from counsel.  
 11 BY MR SKILTON:  
 12 Q What was that understanding?  
 13 A The understanding was -- and I don't  
 14 know how I picked that up, but at some point  
 15 I picked it up -- that, in US patents, enablement  
 16 was considered to be much more important than in  
 17 European patents.  
 18 And I think the context in which  
 19 I picked that up related to the humanising of  
 20 rodent antibodies, which was another of my patents,  
 21 and the requirement for a lot more elaborate  
 22 arguments than one would have felt were necessary.  
 23 Q I'm going to state some questions,  
 24 which I believe I know the answer to, but just to  
 25 make the record clear.



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1 You don't believe yourself to be an  
 2 expert in the United States patent law, is that  
 3 correct?  
 4 A Compared to the man in the street,  
 5 I am, but I don't -- I'm not a trained patent  
 6 lawyer, yes.  
 7 Q Are you aware of the obligations  
 8 that a patentee has with reference to disclosures  
 9 relating to the invention, or prior art that's  
 10 relevant to the invention, in the United States  
 11 patent office?  
 12 A My understanding is that an inventor  
 13 has to be open about his understanding of the prior  
 14 art and disclose all the prior art he's aware of.  
 15 Q Have you ever been given any written  
 16 materials which state the duties as they relate to  
 17 an inventor or an applicant, by anybody at any  
 18 time?  
 19 A I think on the -- I think by the  
 20 mid-nineties I had noticed -- I don't know whether  
 21 it was the first time I'd been given the forms, but  
 22 I remember noticing there appeared to be statements  
 23 on forms relating to the US patent office, that one  
 24 had a duty of disclosure. But exactly when that  
 25 was, when it impinged on my consciousness, I don't

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1 know.  
 2 Q What you do recall relates to, I'm  
 3 going to say, the documents that you signed? Is  
 4 that a fair characterisation of what you just said?  
 5 A I don't know. I don't think I was  
 6 aware of it early on. In other words, it may well  
 7 be that I signed documents, but I do not know  
 8 whether at that point I was aware of that.  
 9 I have become aware of it over  
 10 a period of -- probably by the mid-nineties I would  
 11 say I was aware of it, but I don't know whether  
 12 early on I was aware of it, even if I should have  
 13 been. I can't be sure.  
 14 Q Have you seen any regulations  
 15 relating to the duty of disclosure? The United  
 16 States Federal Court regulations?  
 17 A If the regulations were on the  
 18 patent form, then I must have seen it, if I'd  
 19 signed the document, but I don't recollect  
 20 receiving a, sort of, separate brochure or anything  
 21 like that on it, or studying it particularly.  
 22 Q Have you ever read a document  
 23 which can be described as a George Smith grant  
 24 application or George Smith grant?  
 25 A Have I ever --

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1 Q Ever?  
 2 A -- read a document that could be  
 3 described as?  
 4 MR VEZEAU: Yes, a good point.  
 5 I'm going to object to that question as rather  
 6 indefinite and vague.  
 7 THE WITNESS: A document that could  
 8 be represented as a grant application? Was that  
 9 it?  
 10 BY MR SKILTON:  
 11 Q I will state the question to be --  
 12 I'll restate it.  
 13 A Thank you.  
 14 Q Have you read the Smith grant  
 15 application?  
 16 A No.  
 17 MR VEZEAU: I'll object. Just a  
 18 minute. Well, we got a "no" there, but I'd object  
 19 to that question anyway for lack of foundation as  
 20 to characterisation of that document.  
 21 MR SKILTON: Well, that's why I  
 22 phrased the question as I did in the first  
 23 instance. So I'll try again. Let's just --  
 24 THE WITNESS: Can I just  
 25 characterise my --

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1 MR SKILTON: Please.  
 2 THE WITNESS: Can I just say  
 3 something about my answer?  
 4 MR SKILTON: Please.  
 5 THE WITNESS: I understood that,  
 6 from reading the testimony of the other witnesses,  
 7 that there was a grant application that you were  
 8 going on about, which was in the late eighties.  
 9 I was not aware of that grant  
 10 application. In fact, I don't think I've ever seen  
 11 a grant application by George Smith.  
 12 BY MR SKILTON:  
 13 Q Up and to this day?  
 14 A Yes, I think that's correct.  
 15 I may have seen a paper more  
 16 recently. In fact, I think I did see a paper more  
 17 recently, within the last few years, but certainly  
 18 not at the time we're talking about.  
 19 Q What is the paper you're alluding to  
 20 here?  
 21 A I don't remember. There was a paper  
 22 I was asked to review, make some comments on for  
 23 a journal. This paper must have been in the last  
 24 three or four years.  
 25 MR SKILTON: Mark that, please.

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1 (Exhibit 10 marked for identification)  
 2 BY MR SKILTON:  
 3 Q Dr Winter, I place in front of you  
 4 what has been marked in these proceedings as  
 5 exhibit 10, which I will describe as a document  
 6 bearing the Bates stamp numbers of CM040479 through  
 7 CM040554 inclusive, I believe.  
 8 MR VEZEAU: I can tell you, it  
 9 isn't.  
 10 MR SKILTON: It is not?  
 11 MR VEZEAU: Maybe it is. I can't  
 12 tell you anything.  
 13 MR SKILTON: Thank you.  
 14 I will represent that this is a  
 15 document that your office has identified to us as  
 16 the one that was in the files of Sean Walton.  
 17 MR VEZEAU: My office did not  
 18 represent that this was a document. Let's make  
 19 that clear.  
 20 MR SKILTON: All right. Well,  
 21 again, these pages, to my understanding, were in  
 22 the files of Sean Walton. Do you agree with that  
 23 statement?  
 24 MR VEZEAU: No. I have no idea  
 25 about that. If you say that's what you were told

1 this material as "a document". In other words,  
 2 John, there are several computations here.  
 3 MR SKILTON: I rephrased it, you may  
 4 recall, as "pages" taken from.  
 5 MR VEZEAU: Oh, "pages" are fine.  
 6 I have no problem. I mean, I appreciate you putting  
 7 this letter in front of me. I can tell you, this  
 8 is the first time I've seen this letter, but I have  
 9 no problem with it.  
 10 Now, did we mark this as an  
 11 exhibit?  
 12 MR SKILTON: We did.  
 13 MR VEZEAU: Okay.  
 14 BY MR SKILTON:  
 15 Q With all that folderol, have you  
 16 ever seen these pages inclusive, or any of them,  
 17 prior to this very moment?  
 18 A Well, I've looked at the front, and  
 19 I've looked at a few pages inside, and I can say  
 20 I've not seen the ones I've seen.  
 21 If you want me to say whether I have  
 22 seen any of the pages, I'm going to have to go  
 23 through them one-by-one and search my memory banks,  
 24 but I'd be surprised if I'd seen them.  
 25 Q At least as you sit here today, and

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1 by my office, that's fine. I'm just not sure I am  
 2 aware of that. (Document handed) Thank you.  
 3 (Exhibit 11 marked for identification)  
 4 MR SKILTON: The witness doesn't  
 5 have to look at this.  
 6 (To the witness) This is the  
 7 lawyers talking just to be sure we have the right  
 8 document on the record.  
 9 THE WITNESS: Okay.  
 10 MR SKILTON: I have put in the  
 11 record exhibit 11 which, on its face, purports to  
 12 be a letter from one Ms Stueber to Mr Harth dated  
 13 April 25. I'll read the sentence in, and let's see  
 14 whether the documents that I've identified are  
 15 consistent with this letter.  
 16 "A copy of the Smith Grant  
 17 application from Mr Walton's files is numbered  
 18 CM040479 through 40554."  
 19 I believe those are the numbers  
 20 I used in my identification.  
 21 MR VEZEAU: Yes, but we have also  
 22 learned that this is not a document, during the  
 23 course of discovery, and it's a deposition which  
 24 your side has taken, so I just alert you to that.  
 25 That's why I objected to the characterisation of

1 based on what you have looked at, it's not  
 2 a document or set of pages that you're familiar  
 3 with?  
 4 A No.  
 5 Q Is that correct?  
 6 A Correct.  
 7 Q With respect to the various  
 8 communications you had with Sean Walton, do you  
 9 have any recall of any conversation concerning a  
 10 Smith grant or a Smith grant application?  
 11 A I believe that at some point I was  
 12 asked, either by Sean or it might have been  
 13 Sean through Ron Jackson, had I --  
 14 MR VEZEAU: At this point, those  
 15 communications are privileged. I think you need  
 16 to listen to this question carefully and, if you  
 17 can, answer it yes or no.  
 18 If you can't, we'll have to deal  
 19 with it, but please listen to the question  
 20 carefully because the actual conversations may be  
 21 privilege.  
 22 THE WITNESS: I see.  
 23 MR VEZEAU: That's my concern.  
 24 THE WITNESS: Okay.  
 25 MR VEZEAU: Thelma, do you think you

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1 could read the question back, please?  
 2 COURT REPORTER: "Q. With respect  
 3 to the various communications you had with  
 4 Sean Walton, do you have any recall of any  
 5 conversation concerning a Smith grant or a Smith  
 6 grant application?"

7 THE WITNESS: I have no specific  
 8 recall of a conversation with Sean Walton on the  
 9 subject.

10 BY MR SKILTON:

11 Q Were you ever asked to review any  
 12 arguments made in the European patent office by  
 13 CAT concerning the Smith grant or Smith grant  
 14 application?

15 A No, I was not.

16 Q Do you have any general recollection  
 17 of any discussions concerning the Smith grant or  
 18 Smith grant application with Mr Walton?

19 MR VEZEAU: I believe that question  
 20 has been asked and answered and I object on that  
 21 basis.

22 MR SKILTON: I will say that his  
 23 answer, as we understood it, was "specific  
 24 recollection".

25 MR VEZEAU: Well, I'm not sure what

1 given you, "no". And I don't think I was given any  
 2 more detail than that.

3 Q Did you ever have any conversation  
 4 with David Clough concerning the Smith grant or  
 5 Smith grant application?

6 A I don't think so.

7 Q Does the name Jim Wells mean  
 8 anything to you?

9 A Yes, it does.

10 Q When was the first time you met  
 11 Mr Wells -- Dr Wells?

12 A I don't know for sure, but I think  
 13 it was in the mid to early eighties.

14 Q Do you recall the circumstance of  
 15 that?

16 A I don't recall the specific  
 17 circumstance of when I first met him. I have  
 18 a recollection of having met him in the United  
 19 States.

20 Q What was discussed, if anything?

21 A One of my PhD students, Paul Carter,  
 22 had gone to work as a post-doc with Jim Wells, and  
 23 I think we were just discussing protein engineering  
 24 in general.

25 MR VEZEAU: John, did you want to

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1 the difference is between "specific" and "general",  
 2 so I --

3 MR SKILTON: There may be none.

4 MR VEZEAU: I understand. That's  
 5 why I maintain my objection.

6 MR SKILTON: I'll ask it again.

7 THE WITNESS: Yes, thank you.

8 BY MR SKILTON:

9 Q Do you have any general recollection  
 10 of any conversation between yourself and Mr Walton  
 11 concerning the Smith grant or Smith grant  
 12 application?

13 A I have no general recollection of  
 14 a conversation with Sean Walton, but I was aware  
 15 that the matter had been raised.

16 Q How did you become aware of it?

17 A Well, that's what I don't know.

18 I believe I may have been asked a question by  
 19 Sean Walton or by Ron Jackson, and I simply don't  
 20 remember now who would have raised it.

21 Q Do you remember what the question  
 22 was?

23 A The question was something like,  
 24 "Have you ever seen a grant application from  
 25 George Smith?" And my answer was the same as I've

1 take a minute?

2 MR SKILTON: If I may. I'm sorry.

3 MR VEZEAU: Yes, we'll just take  
 4 a minute or two.

5 VIDEOGRAPHER: We're going off the  
 6 record. The time is 1300(sic).

7 (A short recess at 2.00 pm)

8 (Resumed at 2.09 pm)

9 VIDEOGRAPHER: We're on the record.

10 The time is 1309(sic).

11 BY MR SKILTON:

12 Q Dr Winter, before we took the break  
 13 we were talking about Jim Wells.

14 A You were.

15 Q Right. At any time did you become  
 16 familiar with the work that Jim Wells was doing?

17 A Which work?

18 Q Well, let's talk about on the human  
 19 growth hormone?

20 A I became familiar at some point that  
 21 Jim Wells was working on human growth hormone, yes.  
 22 I can't remember exactly when it was.

23 Q Are you aware that he ultimately  
 24 published a paper with Dr Bass concerning the  
 25 display of human growth hormone on phage, bacterio

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1 phage?  
2 A Yes.  
3 Q Did you read that paper?  
4 A Yes, I did.  
5 Q Did you read it at the time it came  
6 out, it was published?  
7 A Yes.  
8 Q Did that give you information about  
9 work that Doctors Bass and Wells had been doing  
10 that you didn't know?  
11 A Yes.  
12 Q Prior to reading that paper had you  
13 been aware, however, that they were seeking to find  
14 a route to display on bacterio phage the human  
15 growth hormone?  
16 A I was aware that they were trying to  
17 do that, that's correct.  
18 Q When did you become aware of that  
19 fact, if you recall?  
20 A I became aware of the fact that they  
21 were trying to display human growth hormone in --  
22 it must have been some time in the spring of 1990.  
23 Q What was the circumstance of that?  
24 How did you become aware of it?  
25 A I'll need to take a step back,

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1 actually, to explain. It will probably save you a  
2 lot of questions and save your voice.  
3 Q Thank you.  
4 A In 1989, in the summer of '89,  
5 Andrew Griffiths and I were having a discussion in  
6 the laboratory about expression of or display of  
7 antibody fragments on filamentous phage.  
8 At that point Cara Marks, who was  
9 the wife of Jim Marks -- she was a PhD student at  
10 my laboratory, and she had come from Genentech --  
11 and Cara said something like...  
12 We were discussing this. In fact,  
13 I was discussing it with Andrew Griffiths, and we  
14 had actually thought that we would go ahead with  
15 the use of phage; we were equivocating between  
16 lamB and filamentous phage at that point.  
17 And she said -- she was on an island  
18 behind the main bench -- she'd been going in and  
19 out -- and she suddenly popped up and said,  
20 "Jim Wells has been trying that for a while."  
21 That was actually complete news to me at that  
22 point.  
23 So I said, well, you know, "How long  
24 has he been doing it for?" She didn't say exactly  
25 what he'd been doing, but she said, well, he'd been

1 at it some time before she left Genentech.  
2 So at that point I said, well, you  
3 know, "Does it work?" She said she didn't know.  
4 But she said, "You should contact Jim."  
5 Now, as it so happened, there was  
6 a meeting, a protein engineering meeting, on the  
7 island of Spetses in Greece. I was going to that,  
8 and, in fact, Cara was going to it, as was  
9 Jim Wells. And I decided that the best thing to do  
10 would be to bring the matter up then rather than  
11 ring him cold. I knew Wells but not incredibly  
12 well; he's a very friendly person, but I felt that  
13 this was something that I wanted to talk to him  
14 about face-to-face.  
15 So, in fact, when I went to Spetses,  
16 Wells wasn't there at the beginning; he turned up  
17 I think a day or two late. I think he came in  
18 actually during a performance, some kind of Greek  
19 tragedy, which was extremely boring, and we were  
20 all forced to watch this. And it was dark. And  
21 I remember Jim came in. I didn't see him at first  
22 but Cara saw him, and she came to me afterwards --  
23 I think later that evening or possibly the  
24 following morning, I can't remember -- and said,  
25 "Jim is furious with me for telling you about

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1 Genentech proprietary work." And I said, "Well,  
2 I'll talk to Jim."  
3 Jim Wells was very circumspect. It  
4 was like a different person. He was pleased to see  
5 me, but said that Cara never should have said  
6 anything about their work. And, actually, I agreed  
7 with that because she placed me in quite  
8 a difficult position; we had delayed working on  
9 the phage display and I think it put Jim in a very  
10 difficult position because he wasn't, obviously,  
11 exactly sure what Cara had told us -- or told "us";  
12 myself and Andrew Griffiths.  
13 I explained to him that all I knew  
14 was that he'd been trying it. And he said, "Well,  
15 there's lots of problems." And I said, "Well,  
16 look..." You know, I knew Jim Wells was an  
17 excellent scientist.  
18 I pointed out that we were involved  
19 in this scientific competition with Richard Lerner,  
20 and we would like to express antibodies, and would  
21 it be possible to collaborate with him since it  
22 appeared to be so difficult. And he said, "Well,  
23 it could be a problem because of Genentech  
24 corporate policy, but please could I refrain from  
25 discussing the idea with anybody?" And I said,

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1 "Yes, you can take this as being confidential."

2 This was actually a discussion I had  
3 completely in private with Jim. He'd been very  
4 anxious to make sure, I think on that occasion,  
5 there was only myself and himself. Cara, I don't  
6 believe, was there.

7 So I said, yes, I could say I can  
8 keep this confidential; it's to neither of our  
9 advantages to discuss this, particularly if it  
10 works, and he said he'd look into the possibility  
11 of a collaboration, but he said it's really too  
12 early to say; for commercial reasons, and kind of  
13 others, he couldn't really say anything about it at  
14 this point, apart from the fact that it's not  
15 straightforward.

16 Now, I have to say at that point  
17 I was rather disappointed. I was disappointed  
18 actually to hear that there were considerable  
19 difficulties. I'd been alarmed to hear from Cara  
20 that he'd been working on it for a period of time,  
21 and he appeared to be saying it doesn't work or  
22 that there's difficulties, but he didn't actually  
23 say what the difficulties were.

24 So, after that Spetses meeting, we  
25 went home.

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1 And I had at least one conversation  
2 on the phone with him before Christmas -- I can't  
3 remember exactly when it was --

4 Q Of nineteen --

5 A Christmas '89 -- whether they would  
6 be willing to collaborate with us for expression of  
7 antibodies. And he kept saying, "Well, actually,  
8 it is difficult." He seemed to be emphasising less  
9 the commercial issue than it was difficult, but  
10 obviously he wanted it to be kept a secret. And  
11 I said, "We can live with that because it's not in  
12 our interests to disclose it to the Lerner camp."

13 When I talked to David Chiswell,  
14 David Chiswell -- sorry, when David Chiswell...

15 I didn't say anything to anybody  
16 about those discussions until such a point when  
17 David Chiswell mentioned to me what he obviously  
18 regarded as his idea of using filamentous bacterio  
19 phage. And I have to say that I had actually told  
20 Jim Wells that we would not pursue -- pending the  
21 answer from him, that I wouldn't pursue it.

22 But, by Christmas, I was becoming  
23 uneasy that I was being strung along; I didn't  
24 know what the difficulties were, it didn't seem to  
25 get any more positive. Actually, I have no idea

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1 exactly what was going on in Genentech at that  
2 time.

3 I felt, actually, that I'd been  
4 compromised; I'd been compromised by Cara telling  
5 me that Jim was doing it, and I'd found myself  
6 compromised by the fact that I had, in Spetses,  
7 agreed for the time being not to undertake work on  
8 filamentous display of antibodies.

9 But I was still hopeful that we  
10 could come to a deal whereby we might get some  
11 information that would help us to express  
12 antibodies and to be able to select them.

13 Chiswell argued that, to the extent  
14 that he'd come up with the idea independently, and  
15 also to the extent that we had agreed to keep our  
16 idea secret, that I should not disclose the  
17 proposed experiments, namely, our own attempts to  
18 display antibodies on phage. I agreed to that, but  
19 I felt very uncomfortable about it.

20 Later in January -- no, it wasn't  
21 January. I don't know when it was exactly. It was  
22 either January, February or March of 1990 I went to  
23 a meeting in the States, and that was the meeting  
24 I mentioned to you where Jim Wells was. In fact,  
25 I was only there very briefly; something like

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1 a flying visit of a day or two. I think I might  
2 have stayed overnight.

3 The meeting was one in which  
4 Jim Wells was featured to appear, and he came. In  
5 fact, because the meeting was fairly intense,  
6 I didn't get a chance to talk to him at the meeting  
7 itself about the phage, the possibility of phage  
8 display, but he offered to give me a lift to the  
9 airport. And I asked him whether they were still  
10 interested in collaborating. And he said, "Well,  
11 you know, it was extremely tricky. They weren't in  
12 a position that they could collaborate at this  
13 point."

14 And I believe I said at that point,  
15 "Well, you know, you keep going on about  
16 difficulties, but does it work?" And he said  
17 something like, "Put it this way, we're expressing  
18 a protein, and it's recognised by antibodies, but  
19 we've also got a mutant, and we know that the  
20 protein doesn't bind at all well to antibodies.  
21 But, when we look at binding on the phage, when we  
22 look at binding of the phage, we don't see any  
23 difference."

24 And then, in fact, he said, "Look,  
25 I shouldn't have told you anything." Really, you

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1 know. And I said, "Well, look, you know, we're  
2 going to have to go our own way."  
3 And I think he then told me that  
4 Paul Carter was contemplating displaying antibodies  
5 on phage in Genentech. But he didn't say he would  
6 or he wouldn't; he just said "Paul Carter is quite  
7 interested if we get it to work", whatever the  
8 thing was he was expressing.

9 Now, at some point, I think he might  
10 have said he was working on growth hormone, but  
11 that would be surmise on my part. What was  
12 represented was that there was a polypeptide that  
13 was expressed and it was recognised by antibodies,  
14 but there was a problem in that two proteins, which  
15 he said were known to have very different binding  
16 characteristics, but the same on phage.

17 Later, when I read Wells' paper,  
18 I realised that what he must have been going on  
19 about was the avidity effect, because what he did  
20 was to make a way of reducing the valency of  
21 display of growth hormone on the surface of phage.

22 But actually that wasn't the  
23 interpretation I placed on it at the time. I  
24 didn't have the faintest idea exactly what was  
25 happening.

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1 It seemed to me that what he was  
2 talking about wasn't so very different from Smith;  
3 he was saying that his protein, whatever it was,  
4 bound to antibodies and, furthermore, he didn't see  
5 any difference between the binding of the wild type  
6 and the mutant protein, which actually suggested to  
7 me that they were unfolded, or that there was some  
8 stickiness, and I, in fact, wondered whether he  
9 must mean that.

10 But just as we were more or less at  
11 that point, the airport loomed and, basically,  
12 I had to get off. But he wasn't willing to say any  
13 more. He said, "I've told you more than I should  
14 say and, please, we must keep this confidential."  
15 And I agreed to do that.

16 Q When Cara Marks first raised the  
17 issue in the lab, can you tell me approximately  
18 what the date of that was?

19 MR VEZEAU: Raised the issue?

20 MR SKILTON: The issue--

21 MR VEZEAU: Made a comment?

22 MR SKILTON: -- of the work of Jim  
23 Wells.

24 MR VEZEAU: I'm not sure she --  
25 I'll object to that as lacking a proper foundation.

1 BY MR SKILTON:

2 Q Is that a fair reference?

3 A Well, the conversation that I've  
4 told you about, that first conversation, which was  
5 actually I think, apart from Spetses, the only  
6 other conversation I had involving Cara Marks in  
7 respect of phage display, was probably around April  
8 or May. It was basically of 1990. Is that right?  
9 Sorry, '89, 1989. So we had had...

10 It was really the discussion that  
11 Griff and I were having, Andrew Griffiths and I  
12 were having, kind of, in the lab, in my own  
13 laboratory, where she'd, sort of, unexpectedly  
14 intervened.

15 Q She overheard it apparently?

16 A She overheard it, yes. She wasn't  
17 -- I wasn't discussing it with her. She was  
18 working on something completely different. I've  
19 forgotten what it was now; it was probably  
20 catalytic antibody.

21 Q You were talking, were you, about  
22 issues of display of antibodies with Dr Griffiths?

23 A Correct; whether now, having shown  
24 that we could make an antibody library, we could  
25 look at the different systems that might be

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1 available for selecting it. And we therefore  
2 looked at -- we were discussing, I think, the Brian  
3 Seed work with eucaryotic cells, we were discussing  
4 lamB, and we were discussing phage display, and  
5 probably we were turning to phage display. But, at  
6 that point, Cara, sort of, said to our great  
7 surprise, like a bolt from the blue really, that  
8 Jim Wells has been trying that for a while.

9 Q And what -- --

10 A Sorry, had been trying display of  
11 proteins. I had no reason to believe he was trying  
12 antibodies at all. In fact, obviously he wasn't,  
13 it turns out.

14 Q Did she say anything about the issue  
15 of long chain, aminoacid chain proteins in this  
16 first conversation?

17 A It was more that this was something  
18 that I was discussing with Andrew Griffiths, and  
19 really pointing out that the only work that we'd  
20 seen from Smith seemed to relate to the selection  
21 of unfolded proteins with anti-serum that we  
22 believed would react with unfolded proteins.

23 Q I'm informed that Dr Marks  
24 unfortunately passed away, so I'm going to do the  
25 best I can to exhaust your recollection on an issue

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1 that she can't comment on.

2 Do you recall the issue of taking  
3 phage display passed the peptides or short  
4 aminoacid chain proteins into a longer chain was  
5 what she was commenting on in terms of her  
6 interruption of you?

7 A I'm not sure exactly what she was  
8 commenting on. The particular issue that Andrew  
9 Griffiths and I were discussing at that point was  
10 whether, if you had even a long polypeptide chain,  
11 whether it would be folded and would fold on the  
12 surface of phage, and whether there would be the  
13 kind of problems I've alluded to before. So we  
14 were having a discussion, a fairly wide-ranging  
15 discussion, on those points.

16 Q She wasn't invited? She was, if you  
17 will, someone who overheard it? Is that a correct  
18 description?

19 A Yes. She was a member of my group,  
20 and I had no reason particularly to try to be  
21 secretive. But, in fact, she was going in and out  
22 of the lab doing an experiment at the time, and she  
23 just, sort of, came in, obviously heard part of the  
24 conversation, and said something like, "Hey, you  
25 guys, Jim Wells has been trying to display proteins

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1 on phage for some time."

2 Q My question was specific. Did she  
3 make any comment in terms of the length of the  
4 proteins in terms of the aminoacid chain? Did she  
5 say anything that it's a long chain or?

6 A I don't think she did.

7 Q Did her comments --

8 A She wasn't really. I mean, it was  
9 more exactly as I've said. She blurted this out,  
10 then she realised she probably shouldn't have said  
11 it because she was bound under confidentiality at  
12 Genentech. I actually wish she hadn't said it,  
13 because it now made me feel quite uneasy about how  
14 to proceed. But, equally well, I was disturbed  
15 that it appeared to be the case, if Jim Wells had  
16 been trying it for some time, that either he was  
17 going to get there imminently or, in fact, it was  
18 incredibly difficult, and either of them I didn't  
19 like the implications of that.

20 Q You were either going to be in  
21 a race or you were going to be involved in a wasted  
22 effort?

23 A Yes, and at that stage I simply  
24 didn't know what it was. It sounded to me more  
25 like that it was going to be a wasted effort,

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1 because I knew he was very competent and, if it was  
2 straightforward, he could have done it very  
3 quickly.

4 Q Did her comments at all influence  
5 you to go toward the phage, the bacterio phage  
6 vector?

7 A If anything, her comments encouraged  
8 us in the other direction, and so the work that  
9 Andrew Griffiths started was work on the lamB  
10 expression, and what I decided to do was to put  
11 a hold on any phage attempts until we'd talked to  
12 Jim.

13 Q You had mentioned that hold. Are  
14 you saying that, as of the time of April or May of  
15 1989, you had decided to go ahead with a phage  
16 vector experiment?

17 A No, I'm saying that we decided to  
18 put it on hold. We decided to go ahead with a lamB  
19 expression, which was the bacterial expression.

20 Q And that's experimental work, I take  
21 it, that Dr Griffiths did?

22 A Yes.

23 Q Did that work commence after this  
24 conversation with Cara Marks?

25 A I think it did.

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1 Q You, therefore, decided to, what?

2 Find out a little bit more about what had happened  
3 in the Wells' laboratory?

4 A I decided that, if it was possible,  
5 we'd enter a full-blooded collaboration with  
6 Jim Wells because, what I'd heard that moment,  
7 which was only fleeting from Cara, was that he'd  
8 been at it for a while, and therefore I thought  
9 he'll be well ahead of us on it, and therefore  
10 maybe it's possible to do something with him to get  
11 advantage of what he's already done.

12 Q When was this meeting in -- help me  
13 spell the word. Is it Spetsa?

14 A Spetses, actually, I think. It's  
15 S-p-e-t-e-s(sic).

16 Q Is that one of the islands?

17 A It is.

18 Q When was this meeting?

19 A It was at the end of August 1989 or  
20 early September.

21 Q You did describe your contact with  
22 Dr Wells at that time.

23 A Yes.

24 Q Did his comments at that time cause  
25 you to continue to put your project on hold?

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1 A I think it did. I think we decided  
2 to hold off until such point, as it wasn't too  
3 long, he could confirm that we could go ahead and  
4 collaborate. I was optimistic at that point that  
5 we could collaborate.

6 Q Now bring, then, Dr Chiswell into  
7 this chronology. Was it before or after your  
8 meeting with Jim Wells that you had your first  
9 conversation with Dr Chiswell concerning the  
10 bacterio phage vector?

11 A I believe my conversation with  
12 Chiswell was towards the end of the year, of '89,  
13 so that I think it was quite -- it was directly  
14 before McCafferty came into the lab, or it might  
15 have been January 1990.

16 Q So, at that time when you talked to  
17 Dr Chiswell, your belief was that Genentech,  
18 through Dr Wells, was in the process of attempting  
19 to develop the bacterio phage vector for purposes  
20 of displaying proteins. Is that a correct  
21 statement?

22 MR VEZEAU: Objection. Lack of  
23 foundation.

24 THE WITNESS: What I was aware is  
25 that Genentech had a project, which they didn't

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1 divulge at that point, which involved trying to  
2 express proteins on the surface of phage, but  
3 I didn't know whether that project, at that time,  
4 was directed towards just expressing long  
5 polypeptides, namely, not necessarily folded, or  
6 whether it was folded.

7 I assumed it was folded but  
8 actually, now I think about it, I didn't know,  
9 because Cara Marks was very circumspect and  
10 Jim Wells was as well, so he didn't really spell  
11 out what he was trying to do.

12 BY MR SKILTON:

13 Q Did you tell Dr Chiswell about your  
14 contacts with Cara and, ultimately, Dr Wells?

15 A I spoke to Dr Chiswell. When  
16 Dr Chiswell said, "What about trying filamentous  
17 bacterio phage?", I said, "Well, I think it's  
18 a good idea. In fact, you should be aware of this;  
19 that there has been contacts between myself and  
20 Jim Wells who, I understand, may be trying to  
21 express polypeptides on phage." And I explained  
22 the story to him, on the grounds that it was  
23 obviously strictly confidential between the two of  
24 us.

25 Q Did you say that you wanted to wait

1 further to find out whether there might be a  
2 collaborative opportunity at that time?

3 A Well, I wouldn't say I was happy  
4 about waiting. I was getting very frustrated with  
5 waiting. But we basically decided that we should  
6 start.

7 Q Without any further contact of Wells  
8 or of Genentech, correct?

9 A Well, I believe that before --  
10 before the end of -- I think I spoke to him  
11 relatively shortly before Christmas in '89, and  
12 I again reiterated my desire for a collaboration  
13 with them. And, again, he was very pleasant, but  
14 he still kept referring to various difficulties.

15 Q Okay. This was another conversation  
16 that would have, to the best of your belief, have  
17 preceded your first conversation with Dr Chiswell?

18 A Preceded my first conversation? No,  
19 I believe that, after my conversation with  
20 Dr Chiswell, without revealing my discussions with  
21 Dr Chiswell, I wanted to see, before we started  
22 that project, if Wells was willing to help us, you  
23 know, form a collaboration.

24 Q And that's the December call?

25 A That was the December call.

1 Q You have a recollection of that  
2 date, am I right, shortly before Christmas?

3 A Yes.

4 Q Is there something that rings a bell  
5 in that regard?

6 A Not particularly, but for some  
7 reason I think it was around then. I think that it  
8 was -- you know, I think it was some time in  
9 December.

10 Q And is it correct that, as a result  
11 of this call, after talking to Chiswell, you  
12 concluded that there wasn't a realistic opportunity  
13 to have a cooperation with Genentech or Dr Wells  
14 and it was time, therefore, to proceed on your own?

15 A No, I didn't. I continued to be  
16 hopeful. I expected it to be a very difficult  
17 business and that it was going to take us some time  
18 to do the work. I didn't know what problems we  
19 might encounter. I could think of one; the kind  
20 of points I've made to you. So, essentially, when  
21 I went to see...

22 The point at which I decided that we  
23 would absolutely go it alone was after the meeting  
24 in the United States, when we had got essentially  
25 indication from him that there were all these



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1 difficulties and implicitly... He seemed to sound  
2 more negative about the possibility of a  
3 collaboration. In fact, even referring, as I said,  
4 to Paul Carter, who had been my graduate student,  
5 being interested in applying this to antibodies.

6 Q My notes may be imprecise, but, as  
7 I recall your testimony, you indicated that that  
8 meeting was later in 1990. Can you be more  
9 specific as to that particular meeting?

10 A It was some time in the spring, and  
11 I think that the...

12 I don't know exactly when it  
13 occurred, but I believe that, by the time I went  
14 there, we had got some kind of evidence that the  
15 antibody, that the antibody D1.3 was being  
16 expressed, but I can't recollect exactly what it  
17 was. It might have been that we had a fusion band  
18 on the gel. I simply can't remember. But I was  
19 essentially full of foreboding about the project in  
20 the light of the kind of comments Wells had made.

21 Q That is to say that you felt Wells  
22 was suggesting to you that it wasn't going to work,  
23 even if you had some preliminary success? Is that  
24 a correct characterisation?

25 A I don't know whether...

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1 The preliminary success was not  
2 actually something I could call success. I have to  
3 say I can't remember exactly what had been done,  
4 but when I went to the States to see Wells I was  
5 feeling slightly optimistic. I don't know why  
6 I was feeling slightly optimistic. It wasn't just  
7 that there was a possibility of coming to an  
8 agreement with Wells, because I didn't really have  
9 that.

10 I think it must have been based on  
11 some observation made by John; that perhaps we had  
12 got the antibody gene cloned and perhaps there was  
13 some evidence of expression. But I really can't be  
14 sure what it was at this stage.

15 Q Now, I understand that you're doing  
16 your best to recount your recollection of  
17 conversations that occurred, a fair amount of time  
18 ago, so I don't want to sound critical. But,  
19 rather, I want to test how precise we can be.

20 A Yes.

21 Q When you saw Dr Wells in the spring  
22 of 1990 in the United States --

23 A Yes.

24 Q -- he was circumspect? Is that  
25 a correct word?

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1 A He continued to be very circumspect,  
2 yes.

3 Q Did not disclose to you, for  
4 example, what protein it was that he was working  
5 with?

6 A I can't be sure of that. I think  
7 that, in the car, he used the word "protein" and  
8 I used "growth hormone", because I think I had  
9 reason to believe he might have been working on  
10 growth hormone, and he didn't dissent from it, but  
11 was very circumspect.

12 Q And he led you to believe -- if my  
13 notes are correct; and here just tell me where  
14 it's wrong -- that he was having trouble with his  
15 experiment, is that correct?

16 A Yes, he did.

17 Q What specifically did he say, if you  
18 recall?

19 A Well, he was very mysterious about  
20 what the trouble was, and it was only in the car  
21 that he, just as I was getting out, that he said  
22 that the problem was that they appeared to have  
23 displayed polypeptide, for which they had a mutant  
24 polypeptide, which they knew, in a free state,  
25 interacted; one interacted with high affinity

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1 against antibodies, and that the other one, that  
2 the mutant also -- sorry, that the mutant, which  
3 was being displayed on page, seemed to react, in  
4 a phage form, as though it had got a low affinity.  
5 Sorry, as though it had got the same affinity as  
6 the wild type.

7 Q Did that comment at all be affect  
8 your view of whether your experiment would  
9 ultimately succeed?

10 A As I said to you earlier, it was  
11 actually like a -- I couldn't interpret.  
12 I couldn't understand what he really meant. And  
13 the interpretation I placed on it at that stage was  
14 that he must be using anti-serum, and that this was  
15 reacting in a similar way to the native and to the  
16 mutant protein when it was on the phage;  
17 indicating that it may well be denatured on the  
18 phage, or at least that there was a major component  
19 that was denatured on the phage.

20 MR SKILTON: Why don't we take  
21 a break at the break point on the tape?

22 VIDEOGRAPHER: Thank you. This  
23 marks the end of videotape number 2 in the  
24 deposition of Dr Greg Winter. The time is  
25 1348(sic) and we're going off the record.

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1 (A short recess at 2.48 pm)  
 2 (Resumed at 3.10 pm)  
 3 VIDEOGRAPHER: This marks videotape  
 4 number 3 in the deposition of Dr Greg Winter.  
 5 We're on the record. The time is 1410(sic).  
 6 BY MR SKILTON:  
 7 Q Dr Winter, let me take you up to  
 8 where my notes were as we were reviewing them.  
 9 We have you having met with Dr Wells  
 10 and taken a cab back to the airport with him some  
 11 time in the spring of 1990.  
 12 Is there any document that you could  
 13 find or help us to find that would peg that date  
 14 with precision?  
 15 A I don't think it was a cab. I think  
 16 he was driving.  
 17 Q Thank you.  
 18 A I don't have a document. I've  
 19 actually wondered about exactly when that date was,  
 20 but I don't have anything that at the moment I can  
 21 bring to mind.  
 22 There was a meeting at the Waksman  
 23 Institute. That's W-a-k-s-m-a-n. And I can't  
 24 remember who organised it or why I went there in  
 25 the first place.

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1 Q What City, please?  
 2 A I think it's -- it's somewhere in  
 3 New Jersey.  
 4 Q Is that where the institute is  
 5 located?  
 6 A Where the Waksman Institute --  
 7 I believe so, yes.  
 8 Q Now, the next time you heard  
 9 anything about what Jim Wells or his laboratory was  
 10 doing was when?  
 11 A It was when the paper came out.  
 12 When his paper came out.  
 13 MR SKILTON: Mark that, please.  
 14 (Exhibit 12 marked for identification)  
 15 BY MR SKILTON:  
 16 Q Dr Winter, I put in front of you  
 17 a document which bears the number exhibit 12 and  
 18 the Bates stamp numbers MO20015 through 20. Do you  
 19 recognise this document?  
 20 A It looks like the paper that Jim  
 21 Wells published relating to display of growth  
 22 hormone on phage.  
 23 Q This is the paper you earlier  
 24 testified that you had read when it came out,  
 25 correct?

1 A Yes.  
 2 Q The first disclosure of priority  
 3 documents that underlied the 108 patent was on July  
 4 10 of 1990, is that your recollection?  
 5 A I think it was something like that.  
 6 But it wasn't a disclosure; it was secret. You're  
 7 probably using "disclosure" in a very technical  
 8 sense.  
 9 Q Yes.  
 10 A Okay.  
 11 Q Why don't you state your  
 12 understanding of what it was that happened on  
 13 July 10?  
 14 A I believe that a version of the work  
 15 that we were in the process of writing, or  
 16 drafting, for the paper which subsequently appeared  
 17 in the Nature article was filed as a priority  
 18 document in the UK.  
 19 Q Was your work completed at the time  
 20 that this document was filed?  
 21 MR VEZEAU: "This document" being?  
 22 MR SKILTON: The document that was  
 23 filed on July 10, 1990 as a priority document in  
 24 the UK.  
 25 MR VEZEAU: What work are you

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1 referring to?  
 2 BY MR SKILTON:  
 3 Q The work you were doing with respect  
 4 to phage display?  
 5 MR VEZEAU: There was a lot. John,  
 6 I have to ask you to be a little more specific.  
 7 There was a lot of work.  
 8 BY MR SKILTON:  
 9 Q What was the status of the work as  
 10 of the filing, to your understanding, Dr Winter, as  
 11 the head of the lab?  
 12 MR VEZEAU: And apparently this  
 13 question refers to anything to do with phage  
 14 display.  
 15 MR SKILTON: With respect to the  
 16 work of Dr McCafferty, which ultimately resulted in  
 17 the patent, the 108 patent.  
 18 BY MR SKILTON:  
 19 Q What was the status of that work as  
 20 of that filing?  
 21 A Sorry, you apply the work of  
 22 McCafferty. It was the work of McCafferty that led  
 23 to that 108 patent. But, as you know, there were  
 24 a variety of other inventors --  
 25 Q Thank you.

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1 A -- related to repertoires. So I'm  
2 assuming you're talking about: Had we finished the  
3 work described in the subsequent McCafferty paper  
4 by this date?

5 Q Yes, that --

6 A Actually, I simply don't remember.

7 I believe that that first priority  
8 document, that was drafted by David Chiswell and  
9 John McCafferty. I believe that I would have seen  
10 it at some point, but it was intended as an initial  
11 filing in order to obtain an early priority date at  
12 such time as we were convinced that the method  
13 worked for display of antibodies.

14 Q So is it fair to characterise it as  
15 a protective filing?

16 MR VEZEAU: That, to me, is an  
17 indefinite term and I think argumentative. I'm not  
18 sure what you mean. I object on those bases.

19 MR SKILTON: I'll rephrase it.

20 BY MR SKILTON:

21 Q Was this intended to protect the  
22 patent physician, to your understanding, of MRC and  
23 CAT as of the date of July 10 1990?

24 A It was a patent filing, and  
25 obviously a patent filing is a commercial document,

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1 which, in the end, could protect a commercial  
2 investment.

3 I'm not quite clear what you're  
4 driving it. It's a filing. What else is a filing  
5 other than something to protect a commercial  
6 position?

7 Q Was there concern as of that date,  
8 July 10, 1990, that Genentech, and specifically the  
9 work of Jim Wells at Genentech, was going to be the  
10 subject of a patent application?

11 A We had no knowledge of what Wells  
12 was doing at that time.

13 Q Was there concern?

14 A You know, that may well have been  
15 there; that Genentech might file something. We  
16 had no reason to believe they would file anything  
17 on antibodies.

18 We were actually much more concerned  
19 about the selection of antibody repertoires in our  
20 scientific competition with Richard Lerner. I  
21 think that was the aspect that we were concerned  
22 with. We thought if anyone was more likely...

23 I certainly saw the bigger threat as  
24 coming from Richard Lerner than from Genentech.

25 Q Did you see any threat coming from

1 Genentech at that time, July 10, 1990?

2 A There was no specific threat, other  
3 than I was aware that they had been working on the  
4 field of display of polypeptide and had had  
5 difficulties, and obviously something could have  
6 emerged from them, but there was no specific threat  
7 that we were aware of.

8 Q Are you aware of whether or not  
9 there is an interference now pending in the  
10 European patent office or in the United States  
11 patent office concerning the Bass and Wells patent?

12 A I was certainly not aware that the  
13 European patent office allows for inference.

14 Q I misphrased it. Let's take it to  
15 the US patent office. Are you aware of any  
16 interference pending in the United States?

17 A Between?

18 Q Between Genentech and its Bass and  
19 Wells patent and Cambridge Antibody?

20 A I was not aware of that, no.

21 Q Are you aware of any opposition  
22 proceeding in Europe involving Genentech in which  
23 Cambridge Antibody has participated?

24 A I was not aware of it, no.

25 Q Have you ever submitted an affidavit

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1 stating the facts, essentially as you've stated  
2 them on this record, concerning your involvement  
3 and/or contacts with James Wells?

4 MR VEZEAU: May I hear that question  
5 back, Thelma?

6 COURT REPORTER: Certainly.

7 "Q. Have you ever submitted an  
8 affidavit stating the facts, essentially as you've  
9 stated them on this record, concerning your  
10 involvement and/or contacts with James Wells?"

11 THE WITNESS: I have not.

12 BY MR SKILTON:

13 Q Is it correct to say that, to your  
14 knowledge, the first time you've ever stated the  
15 narrative that you gave us in answer to my question  
16 was on this record on this day?

17 A The first time I've ever stated the  
18 narrative? I think I told you earlier that I'd had  
19 a discussion about some aspects of that with  
20 Chiswell in late '89.

21 Q All right, let me be a little more  
22 specific. Have you made any similar statements  
23 concerning this subject-matter under oath at any  
24 time?

25 A No.

1 Q Have you submitted a report to  
2 anybody or a chronology to anybody that contains  
3 essentially the facts that you've recited today?

4 A I don't think I have.

5 Q Now, in some of your answers, with  
6 respect to your understanding of the work of the  
7 Bass lab, you've used the word "polypeptide"?

8 A Yes.

9 Q At one point, was it your  
10 understanding that he was working with  
11 polypeptides?

12 MR VEZEAU: I'm going to object to  
13 the word "understanding".

14 THE WITNESS: I believed he was  
15 expressing, or trying to express, something that  
16 was larger than the smaller polypeptides that had  
17 been described by the original Smith paper.

18 BY MR SKILTON:

19 Q Is the human growth hormone  
20 considered a polypeptide?

21 A It is.

22 Q Do you distinguish a polypeptide,  
23 for example, from a protein generically, or is it  
24 just a form of protein?

25 A A polypeptide, I think most people,

1 wrong.

2 BY MR SKILTON:

3 Q Could it have been as early as your  
4 first conversation with Cara Marks?

5 A No.

6 Q You're sure of that?

7 A I'm absolutely sure.

8 Q Did she use the word "polypeptide"?

9 A I don't think she was specific.

10 I think she was listening to the conversation that  
11 we heard, and she said, "Jim Wells has been trying  
12 to do something like that."

13 Q "Something like that." Like what?  
14 What was the reference point?

15 A At that stage we were talking about  
16 expression of antibody -- the possible expression  
17 of antibody fragments on phage, and we were  
18 discussing several aspects. Obviously one of them  
19 they're rather long, and the other aspect is that  
20 they're folded.

21 MR SKILTON: Next exhibit.

22 (Exhibit 13 marked for identification)

23 BY MR SKILTON:

24 Q I'm placing in front of you what has  
25 been marked as exhibit 13, which purports to be

1 and certainly I would, view in this context as  
2 being a longer form of -- well, sorry.

3 It is a sequence which doesn't  
4 necessarily have any defined confirmation. So, in  
5 other words, it could be a random coil or it could  
6 be a folded protein. One simply doesn't know.

7 Q It could be either?

8 A It could be either, yes.

9 Q And at some point in time in the  
10 chronology you became aware, in fact, that the  
11 polypeptide that Dr Wells was working on was, in  
12 fact, human growth hormone?

13 MR VEZEAU: Some time in the court  
14 chronology?

15 MR SKILTON: The chronology he gave  
16 with reference to his knowledge of the work of the  
17 Wells' lab.

18 THE WITNESS: So you're not  
19 referring to the paper when the paper emerged?

20 MR SKILTON: No, I'm not.

21 THE WITNESS: Okay. So at some  
22 point I may have done. I can't be sure whether I'm  
23 reading things back into it. I don't know whether  
24 he told me or whether I surmised it. I don't think  
25 he actually said growth hormone, but I could be

1 a memorandum dated August 21, 1990, and bears the  
2 Bates stamp number CM040137.

3 Is this a document that you read in  
4 preparation for your deposition?

5 A Yes, I did.

6 Q Let's look at the first sentence  
7 that mentions you by name and see whether you can  
8 add your knowledge, if any, to the contents of this  
9 sentence: "I have however been able to relay the  
10 outcome of our discussion to Aaron, Greg and  
11 Cesar."

12 What discussion, if you recall, was  
13 being referenced here?

14 A Trying to do my best to reconstruct  
15 events after all this time, I think that Chiswell  
16 produced some kind of -- or had made  
17 representations which -- probably similar to those  
18 in the position paper that you showed me earlier;  
19 I've forgotten which document that is. And, if you  
20 remember, there was a statement in there in which  
21 he had said that he had, I believe, discussed it  
22 with Sir Aaron and me, and that basically we agreed  
23 with his analysis. And I think that what this is  
24 actually saying is that there's a gap of  
25 understanding as to exactly what the position is.

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1 As I explained to you earlier, we  
2 were trying to identify what, at that point, seemed  
3 to be the crux of the invention, and there was  
4 a view that I had -- which, in fact, is the view  
5 that I continue to hold now -- which is that the  
6 invention was the idea -- was the demonstration of  
7 the fact that we could express folded antibodies on  
8 the surface of phage, and indeed one could select  
9 those phages using something that recognises that  
10 folded structure.

11 The view of David Chiswell was that  
12 there might be a significant aspect of the  
13 invention which involved the exact insertion point,  
14 and I think that his argument had been, to the  
15 extent that he and John McCafferty had identified  
16 that key insertion point, then that the invention  
17 really resulted from the work of himself and John  
18 McCafferty.

19 In fact, it was my view that indeed,  
20 if the invention was represented as such, then,  
21 indeed, it was the case that they would have been  
22 the key inventors on that understanding of the  
23 patent.

24 That doesn't mean to say that  
25 I would not have been an inventor, but I certainly

1 at this point, was it very much depended on the  
2 view you took of the invention. Therefore, in  
3 a way, it was premature to discuss the attribution  
4 of spoils until such point as we saw the patent  
5 claims, and then one could go through the claims  
6 and say, "Well, when we've taken proper patent  
7 advice, what are viewed as the key claims of the  
8 patent, and who is associated with those."

9 Q Did your view prevail, to your  
10 understanding? That is to say that the question of  
11 attribution was deferred until the patent claims  
12 had been drafted?

13 A The question of attribution of the  
14 commercial spoils, which I think this is what it's  
15 about, was indeed to be deferred, and I think  
16 that's why the form of agreement took place after  
17 the final filing.

18 Q Did the attribution of contribution,  
19 relative contribution, in reference to the claims  
20 as drafted ever occur?

21 A I'm sorry, could you say that --

22 MR VEZEAU: Yes, would you read that  
23 back, Thelma?

24 COURT REPORTER: Certainly.

25 "Q. Did the attribution of

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1 felt that if, indeed, it had been correct that the  
2 phage was -- sorry, that the insertion point on the  
3 phage was central to the invention, then they would  
4 have had a stronger commercial claim to the  
5 intellectual property, or the specific division of  
6 spoils on the intellectual property, which, as  
7 I mentioned earlier, was a joint collaboration  
8 between MRC and Cambridge Antibody Technology.

9 Q Are you able to read the signature  
10 on the bottom of this document?

11 A In fact I can't, no.

12 Q And no guess as to who it might be?

13 A Well, it says from Diana Dunstan,  
14 but I can't actually read it.

15 Q Okay. Now, this document suggests  
16 that at least Diana was suggesting that there be  
17 a study made of who invented what. Do you read the  
18 document that way?

19 A I think that's correct, yes.

20 Q Did you involve yourself personally  
21 in any such study in response to this document or  
22 for any other reason?

23 A I think I've explained to you that  
24 I had a discussion in July 1991 where, indeed,  
25 I did look into it in some detail, and my own view,

1 contribution, relative contribution, in reference  
2 to the claims as drafted ever occur?"

3 THE WITNESS: Sorry, can you repeat  
4 that again?

5 COURT REPORTER: "Q. Did the  
6 attribution of contribution, relative contribution,  
7 in reference to the claims as drafted ever occur?"

8 THE WITNESS: Can I ask which  
9 claims? As drafted at this point? Or as drafted  
10 later?

11 BY MR SKILTON:

12 Q Let's first ask it generally and  
13 then I'll go to some specific claims for a  
14 reference point.

15 A Was there relative attribution?

16 MR VEZEAU: Can you possibly, John,  
17 can you simplify that question a little bit? Maybe  
18 you can't.

19 MR SKILTON: Well, I'm not trying to  
20 confuse anybody so let me see if I can do it.

21 BY MR SKILTON:

22 Q This document, on its face, as we  
23 earlier discussed, calls for an investigation to  
24 determine the details of the contribution made by  
25 each of those concerned?

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1 A Yes.

2 Q You indicated, did you not, that any

3 such investigation was deferred at your suggestion

4 until the claims were actually drafted?

5 A Well, I don't know whether it was

6 deferred on my suggestion, but I made the

7 suggestion and it was deferred. But I think that

8 Sir Aaron Clug and Cesar Milstein were quite

9 capable of coming to their own conclusions, and

10 I think we all felt -- well, in particular,

11 Sir Aaron and Cesar felt -- that we hadn't seen

12 a copy, or they hadn't seen a copy of the priority

13 document, and, although they believed this to be

14 based on work from the laboratory, they had not

15 seen the detail and, until they knew exactly what

16 was in it, it was very difficult for us to come to

17 a conclusion.

18 Q So there was no investigation done

19 initially in response to this memo, to the best of

20 your knowledge and understanding, is that correct?

21 MR VEZEAU: I'm going to object to

22 that question as being indefinite and lacking

23 foundation.

24 THE WITNESS: You say was there an

25 investigation? I mean, clearly, there were

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1 discussions that went on as part of these

2 negotiations. You've already drawn my attention to

3 a document from David Chiswell to the MRC, and we

4 now see a letter from the MRC to David Chiswell, so

5 at that level there had been an attempt to make

6 attribution.

7 The MRC is claiming it should be

8 between 50 and 75 per cent, and Chiswell is

9 claiming it should be between 25 and 50 per cent.

10 At some later point this figure of

11 the relative attribution was decided as only 50 per

12 cent, so you could regard it as a compromise, but

13 actually it was based on the argument that this had

14 been a genuine cooperation between the two parties,

15 MRC and Cambridge Antibody Technology, and really

16 that they had all made essential contributions for

17 the progress of the -- or for the patent filing,

18 and therefore it should be 50/50.

19 BY MR SKILTON:

20 Q And that's as between the two

21 entities?

22 A Correct.

23 Q Cambridge and MRC?

24 A Correct.

25 Q Now, I'm interested in whether

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1 you're aware of any investigation, in any form,

2 which attempted to determine what, for example,

3 John McCafferty contributed to any claim in this

4 patent?

5 A You used the word "investigation".

6 Could you explain what you mean by that?

7 Q Interview with McCafferty,

8 determination as to whether he was the inventor of

9 claim 1 by either a lawyer or by yourself?

10 A I think I told you earlier that

11 there had been the July 1991 date. There most

12 definitely had been an analysis of each claim of

13 the patent and an attribution of an inventor to

14 each claim, or multiple inventors to specific

15 claims.

16 Q And I would like to determine

17 exactly what that analysis showed as of that time,

18 July of 1991. How do I find out?

19 A I don't think you can because

20 I think this was something which involved David

21 Chiswell and myself discussing the matter in

22 conjunction with our attorney.

23 Q I'm going to place in front of you

24 a document that was earlier marked as exhibit 9 in

25 the CAT 30(b)(6) deposition which occurred on --

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1 this will be American -- February 4 of this year.

2 A I'm sorry, what? What is this?

3 Q This a copy of the patent.

4 A What's it to do with?

5 Q The 108 patent.

6 A What are you talking about, February

7 4th?

8 MR VEZEAU: If you look at the

9 exhibit stamp in the bottom it's written in more

10 American than European form, with the month, day

11 year in that sequence.

12 THE WITNESS: I understand.

13 MR SKILTON: I was just doing it for

14 the record. That wasn't a question.

15 THE WITNESS: Oh I see. So this is

16 nothing to do with the date of the patent?

17 MR SKILTON: Correct.

18 THE WITNESS: It's just the time at

19 which this formally enters the proceedings?

20 MR SKILTON: Yes, so I didn't have

21 to identify it again. That's all.

22 THE WITNESS: I see, okay.

23 BY MR SKILTON:

24 Q Do you recognise this document?

25 A Yes, I do.

1 Q I'm going to take you back, if you  
2 will, to the claims of this patent, which you'll  
3 know, from reading other patents, is toward the end  
4 of the document.

5 A Mmmm.

6 Q Dr Winter, I'm now looking at pages  
7 14360, CM014360, through CM014362, columns 121,  
8 122, 123, 124, 125 and 126. Do you recognise this  
9 to state the claims in the 108 patent, correct?

10 A In a general sense, yes.

11 Q Now, at some point in time, as  
12 I understand it, in the application process, you  
13 and Dr Chiswell and -- was it Sean Walton? -- sat  
14 down with a document and attributed the claims as  
15 then written separately to inventors?

16 MR VEZEAU: Objection. Lack of  
17 foundation.

18 BY MR SKILTON:

19 Q Do I understand that correctly?

20 A No, you don't.

21 Q What is the fact as to what you and  
22 Dr Chiswell did with Sean Walton?

23 MR VEZEAU: Objection. Lack of  
24 foundation.

25 BY MR SKILTON:

1 Q Was it with Sean Walton?

2 A No, it was not.

3 Q Sorry. Was it with the other lawyer  
4 that you named earlier?

5 A I mentioned Ian Armitage earlier.

6 Q What was it that you did with him?

7 MR VEZEAU: Again, we're in the area  
8 of privileged communications. If you can answer  
9 this generally without getting into the specifics  
10 of the information exchanged, you may do so. If  
11 you can't, let me know and you should not.

12 THE WITNESS: I've referred earlier  
13 to the process which we went through. I can repeat  
14 that, if you want.

15 BY MR SKILTON:

16 Q I don't need you to say something  
17 you've already said on the record.

18 A Fine.

19 Q Did that process result in the  
20 attribution of specific names to specific claims?

21 A Yes, it did.

22 Q Did your attorney take notes, to  
23 your understanding, of the conclusions that were  
24 reached when that process was completed?

25 A I do not know what the attorney

1 did.

2 We had a list. As we went through  
3 the list -- as we went through the claims, we drew  
4 a list of the people involved with each claim.  
5 Furthermore, we also drew up a list of those people  
6 in my laboratory and in Cambridge Antibody  
7 Technology, and we compared those lists. So with  
8 each claim considering who we felt was involved  
9 with the claim. And then, secondly, checking this  
10 list of names to make sure we hadn't missed anybody  
11 out, or incorrectly attributed somebody.

12 Q Do you recall -- strike that. Let  
13 me go back.

14 There are, according to the patent,  
15 and will you look at the first page with me,  
16 please?

17 A Yes.

18 Q Twelve named inventors. And you can  
19 take your time to count them, if you wish.

20 MR VEZEAU: I come up with more.

21 MR SKILTON: Do you? What is your  
22 number, please? The document speaks for itself.

23 MR VEZEAU: Of course it does.

24 Let's put it this way; I think we've established  
25 CAT can count better.

1 MR SKILTON: Thirteen.

2 THE WITNESS: Can you tell me --

3 MR SKILTON: My colleague tells me  
4 the number is thirteen.

5 THE WITNESS: I counted twelve,  
6 actually.

7 MR SKILTON: You'll have to strike  
8 your last comment, Mr Vezeau.

9 THE WITNESS: I make it twelve.

10 MR VEZEAU: It isn't twelve, John.  
11 It's a dozen.

12 BY MR SKILTON:

13 Q Is this the list that you and  
14 Dr Chiswell, together with your attorney, came up  
15 with at the session that you have now described on  
16 this record?

17 A Probably. I can't be sure.

18 Q Does -- strike that.

19 Do all twelve inventors share equal  
20 credit for all of the claims of this patent?

21 MR VEZEAU: I am going to object to  
22 that question because I don't know what it means.  
23 Indefinite.

24 THE WITNESS: Equal credit for all  
25 of the claims? So you're implying that all twelve

1 were involved to an equal extent on each claim?

2 MR SKILTON: Yes.

3 THE WITNESS: Is that what you're  
4 saying?

5 MR SKILTON: Yes, that's my  
6 question.

7 THE WITNESS: I don't believe that  
8 -- well, it is definitely the case that there was  
9 not equal involvement on each claim of this patent.  
10 Obviously some people made more of a contribution  
11 than others on specific claims.

12 BY MR SKILTON:

13 Q Well, I want to get the process  
14 down. I'm not trying to jam conclusions down your  
15 throat, so let's work at it indirectly through  
16 direct questions.

17 With respect, for example, to claim  
18 1, what was the process in reference to that list  
19 -- that list of both CAT and MRC lab persons --  
20 that you were working on to come to the conclusion  
21 as to inventorship with respect to that claim?  
22 What was the process?

23 A Sorry, I'm trying to recollect what  
24 the process was on claim 1.

25 MR VEZEAU: May I hear the question

1 record. The time is 1504(sic).

2 (Exhibit 14 marked for identification)

3 BY MR SKILTON:

4 Q Dr Winter, I'm going to place in  
5 front of you a document which has now been marked  
6 as exhibit 14, which I will represent to you, and  
7 we can confirm if necessary, is the first priority  
8 document, at least most of which here was filed on  
9 July 10, 1990, and by that I mean the pages that  
10 commence on CM000351. The whole document bears the  
11 Bates stamp numbers CM000348 through CM000383.

12 I'm going to take you then to the  
13 page beginning on 351, if you would, with me. Do  
14 you recognise this document?

15 A I don't specifically recognise it.

16 Q Is it a document, as you look at it,  
17 that you had any role in drafting or vetting?

18 MR VEZEAU: What was -- vetting?

19 MR SKILTON: Vetting.

20 MR VEZEAU: I'm not quite sure what  
21 that means in this context.

22 MR SKILTON: I'll rephrase the  
23 question. I'll ask it one at a time.

24 BY MR SKILTON:

25 Q Did you have any role in drafting

1 again, please?

2 COURT REPORTER: "Q. Well, I want  
3 to get the process down. I'm not trying to jam  
4 conclusions down your throat, so let's work at it  
5 indirectly through direct questions.

6 "With respect, for example, to  
7 claim 1, what was the process in reference to that  
8 list -- that list of both CAT and MRC lab persons  
9 -- that you were working on to come to the  
10 conclusion as to inventorship with respect to that  
11 claim? What was the process?"

12 MR VEZEAU: I'm going to object to  
13 that question as lacking a proper foundation with  
14 respect to the direction to claim 1 of the patent  
15 as issued.

16 MR SKILTON: Right. Why don't we  
17 take a 5-minute break? I understand the  
18 objection. I'll see whether I can push another  
19 document here.

20 MR VEZEAU: Sure.

21 VIDEOGRAPHER: We're going off the  
22 record. The time is 1448(sic).

23 (A short recess at 3.48 pm)

24 (Resumed at 4.04 pm)

25 VIDEOGRAPHER: We're back on the

1 this document, that which begins on CM000351?

2 A I'll have to read it to be sure  
3 about that. I think it's quite likely that I would  
4 have had some role in some bits of it, but I don't  
5 believe that -- I simply can't remember whether  
6 I was involved in the final approval of this  
7 document.

8 Q Do you have a belief as to who it  
9 was, in fact, that drafted this document?

10 A Well, I can surmise it was David  
11 Chiswell, because John McCafferty was working  
12 experimentally and David Chiswell was only really  
13 the person with the time to spend making drafts at  
14 that point.

15 Q And realising that you -- strike  
16 that.

17 When was the last time you reviewed  
18 this document, if you recall?

19 A I don't recall.

20 Q And certainly you haven't reviewed  
21 it in the last thirty days?

22 A No, I have not reviewed it in the  
23 last thirty days.

24 Q So, in order for you to be more  
25 specific than the answer that you gave, you would



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1 need to read the document carefully and think about  
2 it for a while, is that a fair statement?

3 A I would certainly need to do that  
4 before I made much more comment on it, because  
5 we're going back a long time. But whether or not,  
6 if I did that, I would be able to tell you much  
7 more about it, I don't know.

8 MR SKILTON: I'm going to place in  
9 front of you, then, exhibit 15, which I will  
10 represent to you is the international application  
11 under the PCT. For the record, I'll identify it as  
12 including pages CM000130 through CM000347.

13 (Exhibit 15 marked for identification)

14 BY MR SKILTON:

15 Q Have you reviewed this document in  
16 the last thirty days, Dr Winter?

17 A I have not.

18 Q We have helpfully marked with a  
19 yellow tag the original claims as they appear in  
20 this document, which begin on CM000290. Would you  
21 turn with me, please, to that page?

22 A Yes.

23 Q Do you have an understanding of what  
24 it is you are now looking at here, beginning with  
25 the word "claims" and I thereafter?

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1 A This certainly appears to be similar  
2 to the claims that I was involved in drafting.  
3 Whether identical, I don't know.

4 Q All right. And responding to  
5 Mr Vezeau's objection, do you believe this to be,  
6 as you sit here today, the claims that were in  
7 front of you at the time that you went through the  
8 process of trying to attribute the inventions  
9 specifically on a claim-by-claim basis?

10 A I simply don't know whether they are  
11 or not. I would surmise they are, but I don't know  
12 for sure.

13 Q On the assumption that they are, and  
14 now referring you to claim 1, would you describe  
15 the process that you and Dr Chiswell and counsel  
16 went through in ascertaining who it was that was  
17 the inventor of claim 1, or inventors, plural?

18 MR VEZEAU: Again, do you understand  
19 this question calls for a process and not the  
20 specific exchange of information that you may have  
21 had at that time?

22 THE WITNESS: Yes. I'm going to  
23 have to read this claim first.

24 BY MR SKILTON:

25 Q Please.

1 A (Witness reviewed the document)  
2 It's, kind of, rather difficult to describe the  
3 process without describing the detail.

4 MR VEZEAU: If you cannot do so then  
5 you should not do so, because I believe that's  
6 privileged.

7 THE WITNESS: I see.

8 BY MR SKILTON:

9 Q I actually disagree with that, but  
10 are you able to state anything as to what the  
11 process was of ascertainment of inventorship with  
12 respect to claim 1 in this PCT?

13 A I think the only thing I can say is  
14 that each claim was looked at individually, and we  
15 discussed the various people involved in the  
16 demonstration of that claim and the contributions  
17 that they had made, but, after this time, it's very  
18 difficult to remember the exact process.

19 I don't even know if there was  
20 a single process, or if there were multiple  
21 processes. I mean, the ideas went backwards and  
22 forwards as we sought advice from the attorneys as  
23 to what was relevant and what wasn't relevant.

24 Q Were you working with any document  
25 in this process?

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1 A I'm not actually sure we were  
2 working with a document. I think that we had the  
3 claims in front of us on a computer.

4 Q Was there anyone who recorded  
5 the results of this process of attribution on  
6 a claim-by-claim basis?

7 A I imagine there must have been but  
8 I don't remember anyone specifically doing it.

9 Q Can you tell me whether, with  
10 respect to claim 1, Hennie Hoogenboom was  
11 determined to have been an inventor?

12 MR VEZEAU: If answering that  
13 question requires you to divulge information that  
14 you provided to your attorney or that Dr Chiswell  
15 provided to his attorney, or an opinion the  
16 attorney gave to you, you should not do so because  
17 I think that's privileged.

18 THE WITNESS: If that's correct that  
19 rules out the question, because the whole process  
20 involved a discussion between myself and an  
21 attorney, and Dr Chiswell and an attorney, and the  
22 three of us together at least in that meeting.

23 MR SKILTON: Would you read the last  
24 answer back?

25 COURT REPORTER: Certainly.

1 MR SKILTON: With the question.  
 2 COURT REPORTER: "Q. Can you tell  
 3 me whether, with respect to claim 1, Hennie  
 4 Hoogenboom was determined to have been an  
 5 inventor?"  
 6 Mr Vezeau gave some advice to the  
 7 witness. The witness said:  
 8 "A. If that's correct that rules  
 9 out the question, because the whole process  
 10 involved a discussion between myself and an  
 11 attorney, and Dr Chiswell and an attorney, and the  
 12 three of us together at least in that meeting."  
 13 BY MR SKILTON:  
 14 Q What contribution, in your opinion,  
 15 did Hennie Hoogenboom make to the invention  
 16 described in claim 1 of this application?  
 17 MR VEZEAU: Do you recall my advice  
 18 to you?  
 19 THE WITNESS: Yes, I recall your  
 20 advice, and it appears to be the same question or  
 21 am I mistaken?  
 22 BY MR SKILTON:  
 23 Q I'm not asking here for any  
 24 involvement of the lawyer. I'm asking here for  
 25 your opinion as to who at that time, the one that

1 that is the case, you should not respond to that  
 2 question.  
 3 THE WITNESS: Sorry, could you  
 4 repeat the question?  
 5 COURT REPORTER: Certainly.  
 6 "Q. Can you tell us what work  
 7 Dr Hoogenboom did with reference to claim 1?"  
 8 THE WITNESS: If you want to know  
 9 what work Dr Hoogenboom did, I can tell you about  
 10 the work that Dr Hoogenboom did. But you're asking  
 11 me to place that in the context of claim 1 and  
 12 that, I understand, I shouldn't answer.  
 13 BY MR SKILTON:  
 14 Q Let's take it in the terms you've  
 15 just given. I want to go through each of these  
 16 inventors, please, and we'll start with John  
 17 McCafferty. What work did John McCafferty do?  
 18 A If you want to go through each of  
 19 the inventors, I'm going to have to take some time  
 20 off and read this thing because, simply, I may  
 21 forget as to exactly what each person did, and  
 22 I think that wouldn't be right.  
 23 I think you're already aware of the  
 24 work that McCafferty...  
 25 I mean, a simple answer to your

1 you had contemporaneously at that time, as to who  
 2 was the inventor and, in specific, was Hennie  
 3 Hoogenboom an inventor of claim 1?  
 4 MR VEZEAU: If, in answering that  
 5 question, you're required to divulge information  
 6 you provided to your counsel for the purpose of  
 7 receiving an opinion from counsel as to  
 8 inventorship, then you should not do so because  
 9 that communication is privileged.  
 10 BY MR SKILTON:  
 11 Q Can you answer the question?  
 12 A It sounds like I can't answer the  
 13 question.  
 14 Q So you follow that instruction?  
 15 A What else am I supposed to do?  
 16 Q I just want confirmation on the  
 17 record. The answer is "yes"?  
 18 A Yes.  
 19 Q Can you tell us what work  
 20 Dr Hoogenboom did with reference to claim 1?  
 21 MR VEZEAU: I would give you -- to  
 22 the extent in answering that question entails your  
 23 revealing information you provided to your counsel  
 24 for the purpose of receiving an opinion, I believe  
 25 that's privileged. And I would so advise you, if

1 question is, if you look at the papers that are  
 2 published, the people on those papers were involved  
 3 in doing the work somehow.  
 4 MR SKILTON: Dr Winter, I can assure  
 5 you that I am not here to either waste your time or  
 6 to make this unduly complicated, and I will, in  
 7 this context, and we're getting out the  
 8 interrogatory, state that we made an effort here,  
 9 through proper discovery some five months' ago, to  
 10 get a narrative answer to these questions by  
 11 interrogatory.  
 12 (To Mr Vezeau) We have not received  
 13 an answer and I ask counsel whether it is your intent  
 14 to supply us with an answer to that question 6?  
 15 MR VEZEAU: I disagree with you.  
 16 I believe you have received an answer. You may not  
 17 like the answer you received, but you did.  
 18 In addition, you have testimony in  
 19 the record from numerous witnesses of the  
 20 contributions of each inventor. So the legal  
 21 conclusions you may wish to draw, to me, is a  
 22 matter of law. I don't think you're entitled to  
 23 get into privileged communications with counsel.  
 24 For example, I do recall Dr Jackson, and I believe  
 25 Dr McCafferty, going into some detail on these

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1 points. Also Dr Griffiths, I believe, and  
 2 Dr Johnson.  
 3 (Exhibit 16 marked for identification)  
 4 MR SKILTON: You need not read that,  
 5 Dr McCafferty(sic), I'm finishing my record on this  
 6 point, but I would ask that --  
 7 THE WITNESS: I'm Dr Winter.  
 8 MR SKILTON: I'm sorry. I apologise  
 9 to you. My mind is running too fast.  
 10 We have marked as exhibit 16  
 11 Cambridge Antibody Technology Limited's response to  
 12 MorphoSys' first set of interrogatories. Earlier  
 13 I made reference to 6, which I will read into the  
 14 record, with the answer. The question asks:  
 15 "Identify all of the inventors of  
 16 the 108 patent and for each inventor identify what  
 17 contributions they made to the invention(s) claimed  
 18 in the 108 patent."  
 19 The response is:  
 20 "John McCafferty, Anthony Richard  
 21 Pope, Kevin Stuart Johnson, Henricus Renerus  
 22 Jacobus Mattheus Hoogenboom, Andrew David  
 23 Griffiths, misspelled, Ronald Henry Jackson, Kaspar  
 24 Philipp Holliger, James David Marks, Timothy Piers  
 25 Clackson, David John Chiswell, Gregory Paul Winter,

1 attention to the testimony in the record.  
 2 Legal conclusions you want to draw  
 3 from that, you may argue until the cows come home  
 4 as far as I'm concerned, but we will draw your  
 5 attention to the factual testimony of the various  
 6 witnesses, including the 30(b)(6) witness of CAT.  
 7 MR SKILTON: Well, what we asked  
 8 for, just so it's clear, is CAT's attribution on  
 9 a claim-by-claim basis of inventorship. Not the  
 10 attribution of individuals who were not involved in  
 11 the process, but CAT's. And that is the request  
 12 that we make, and that is the answer which we wish  
 13 to receive.  
 14 BY MR SKILTON:  
 15 Q Dr Winter, would you be kind enough  
 16 to state your present affiliation, in terms of  
 17 business affiliations?  
 18 A I'm a director of Diversys. I'm  
 19 director of PepTech.  
 20 Q A director of?  
 21 A PepTech.  
 22 Q That PepTech is the same entity that  
 23 was early involved in the funding of Cambridge  
 24 Antibody Technology?  
 25 A Correct.

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1 and Timothy Peter Bonnert, who each contributed to  
 2 the concept of one or more claims of the  
 3 108 patent."  
 4 Counsel, is that the answer of  
 5 Cambridge Antibody Technology?  
 6 MR VEZEAU: Coupled with the  
 7 subsequent testimony you have received, yes. And  
 8 if you'd like us to supplement a response to refer  
 9 to that, I'd be happy to do so.  
 10 MR SKILTON: Well, I'm not going to  
 11 tell you how to supplement any response, but I can  
 12 tell you that I believe this interrogatory is  
 13 required to have an authoritative answer under the  
 14 Federal Rules, not to put us in a position here of  
 15 attempting here, through witness testimony, to  
 16 reconstruct that which is not reconstructible. And  
 17 so my statement on the record is that this answer  
 18 is inadequate as a matter of law.  
 19 MR VEZEAU: And, John, if you look  
 20 at your second to the last set of responses to our  
 21 interrogatories, they are absolutely inadequate as  
 22 a matter of law.  
 23 I believe this answer is adequate.  
 24 However, as I said, we will make a note and revisit  
 25 this and see if we can respond, and call your

1 Q Do you have any current affiliation  
 2 with Cambridge Antibody Technology?  
 3 A Do you mean am I a director? Or do  
 4 you mean am I an employee? I'm neither of those.  
 5 Q Are you a consultant?  
 6 A I'm not sure.  
 7 Q Have you performed consulting  
 8 services in the last six months for Cambridge  
 9 Antibody Technology?  
 10 A I don't believe I've performed  
 11 consulting services of the type that you -- or what  
 12 I would normally call consultation.  
 13 Cambridge Antibody has agreed to  
 14 remunerate me for the time that I spend involved in  
 15 this case, and so, therefore, I will receive some  
 16 kind of a remuneration from them. Whether that, in  
 17 your eyes, makes me a consultant, I'm not sure, but  
 18 that's the situation.  
 19 Q Can you tell me what the rate of  
 20 remuneration is?  
 21 A I don't recollect it.  
 22 Q Have you billed Cambridge for that  
 23 kind of consulting work to date?  
 24 A I've actually -- I billed them in  
 25 respect of the last repertoire.

1 Q By that you mean the last case?

2 A The last case. I don't think I've  
3 billed them in respect of this case.

4 Q Do you remember how much that bill  
5 was?

6 A No.

7 MR SKILTON: Counsel, I would ask  
8 that a copy of that bill be produced.

9 BY MR SKILTON:

10 Q Have you received any compensation  
11 -- strike that.

12 Are you vested in any royalty rights  
13 as they may relate to the 108 patent?

14 A Royal rights. Can you define what  
15 you mean by "right"?

16 Q First let me backtrack and ask.  
17 Have you received any payments, royalty or  
18 otherwise, in reference to the 108 patent, other  
19 than those which you may receive as a consultant?

20 A Perhaps I can give you the formally  
21 correct answer, which is that the Medical Research  
22 Council operates an award to inventor scheme, and  
23 I'm an inventor on a number of patents from the  
24 Medical Research Council. And when the Medical  
25 Research Council receives revenues for an

1 a recommendation and, in the end, I get a number.  
2 I do not know exactly how the Medical Research  
3 Council does its calculation, but I have reason to  
4 believe that they follow a process which attributes  
5 inventors -- it attributes percentage -- start  
6 again.

7 It takes, first of all, the idea, in  
8 the case of Cambridge Antibody Technology that  
9 there's a bundle of papers that were licensed to  
10 them. It then attempts to dissect the relative  
11 importance of those papers from among the bundle.  
12 And then, with respect to each invention, it looks  
13 at all the inventors involved, those from the  
14 Medical Research Council, and there's some kind of  
15 attribution of the relative roles of those people.  
16 The process is obviously imperfect, and it does get  
17 reviewed from time to time.

18 Q Who is it that makes these  
19 calculations at the Medical Research Council?

20 A This is the Medical Research Council  
21 head office on the basis of recommendations made by  
22 the director of the laboratory.

23 Q Are these recommendations ones that  
24 you can review, if you request to review them?

25 A I don't know.

1 individual patent or a bundle of patents, as in the  
2 case of the patents that were licensed to Cambridge  
3 Antibody Technology, the revenues are distributed  
4 mainly to the Medical Research Council itself. It  
5 keeps the lion's share, but some fraction goes to  
6 inventors.

7 So it's not clear to me whether  
8 I have a right. I think it's based on a process of  
9 recommendation and a process of assumption about  
10 the respective strengths or importances of  
11 different patents to a portfolio of patents.

12 But the essence of it is that I do  
13 believe that from, within the money the Medical  
14 Research Council makes itself, which recently has  
15 been its share sales of equity in Cambridge  
16 Antibody Technology, that I will receive some  
17 fraction of the inventor's cake.

18 Q To date, do you believe that you  
19 have obtained some fractions as a result of the  
20 108 patent?

21 A Yes, I do.

22 Q Do you have knowledge of how much  
23 money you've received as a result of the 108  
24 patent?

25 A As I said, the process involves

1 Q Have you ever seen documentation of  
2 the process or the result as they relate to your  
3 payments concerning the 108 patent?  
4 A I was involved in formulating an  
5 equitable reward proposing to the MRC a mechanism  
6 by which we might deal with the attribution of  
7 rewards from those patents, but that process went  
8 through various review stages. I have reason to  
9 believe that they followed something resembling my  
10 initial recommendations.

11 Q Were your recommendations in  
12 writing?

13 A There was a draft document in  
14 writing, correct.

15 Q Did it comment specifically on the  
16 108 patent in terms of its relative value in the  
17 bundle?

18 A It would have commented on it, yes.

19 Q Did it assign a relative value as a  
20 matter of percentage of the total revenues to the  
21 108 patent?

22 A You refer to the 108 patent, but in  
23 fact there's obviously a European filing as well,  
24 and so I'm talking about the -- by 108 patent,  
25 I assume you mean the whole body of work relating

1 to phage display and repertoires.

2 Q Rather than me guessing, since I  
3 haven't seen it, why don't you divide it out to the  
4 best that you can, as to what are the divisions in  
5 this bundle as it relates to the various pieces of  
6 intellectual property? And how were the divisions  
7 made? And how does it relate to individual  
8 inventors?

9 A I can give you a broad answer.

10 There are two patents or two patent  
11 -- let's say two families of patents. The first  
12 patent or family of patents is the repertoire  
13 technology patents. And obviously this has  
14 European/American counterparts, etcetera, or  
15 Japanese counterparts for all I know. That's one  
16 of those families.

17 And the other one is the phage  
18 display of antibody fragments, of which display of  
19 single chain Fvs is part of it.

20 Now, there were a series of other  
21 patents which also were licensed to Cambridge  
22 Antibody Technology, and, at the beginning, we  
23 started off with the assumption that the key things  
24 that were licensed to Cambridge Antibody Technology  
25 were those two families of patents I have mentioned

1 actually remember now exactly what percentage we'd  
2 attributed to the phage display of antibodies, so  
3 that includes the display of single chain Fv, its  
4 various jurisdictions, but my guess is it was  
5 probably, in the end, somewhere between 30 and 40  
6 per cent.

7 Q And someone, I take it, worked with  
8 your recommendations to have a final determination  
9 as to how these divisions would be made, is that  
10 correct?

11 A Yes. Sir Aaron Clug looked at the  
12 proposals I'd made. And we had some discussion  
13 about whether they were right, and I explained to  
14 him the various problems that I was struggling with  
15 in the recommendation. I simply can't remember how  
16 much Sir Aaron had in the general process, but  
17 I would say that I provided the initial view and  
18 that was refined in discussion and debate with him.

19 Q Is this a process that is still in  
20 place today for purposes of the distribution of  
21 revenues by MRC to its inventors?

22 A The MRC has a system of awards to  
23 inventors which is normally not grappling with a  
24 problem as complicated as this.

25 Normally, I think when they had

1 to you; the repertoire and the phage patents.

2 So we took as our first proximation  
3 -- let's say it's 50 per cent each. Because,  
4 basically, the value of Cambridge Antibody, which  
5 is based on -- which reflects -- sorry, start  
6 again.

7 What we tried to look at was there  
8 are obviously different ways in which the Medical  
9 Research Council might receive revenue from these  
10 families of patents. The first one related to the  
11 value of those patents to Cambridge Antibody  
12 Technology in respect of equity.

13 The second aspect is in respect of  
14 royalty income from the licensing of those  
15 patents.

16 The particular issue that we  
17 addressed at the beginning related more to the  
18 value of the whole bundle to the share price of  
19 Cambridge Antibody Technology, and that, in that  
20 context, it was felt that most of the value, at  
21 that time that we did this review, related to the  
22 repertoire and to the phage display.

23 There were other patents which we  
24 thought might be important, but at that stage  
25 a much more minor value was put on them. I can't

1 their scheme, the idea was that the -- or when the  
2 scheme was set up, that there would be revenue from  
3 a particular patent, royalties from the Medical  
4 Research Council -- sorry, to Medical Research  
5 Council, and that they could then distribute the  
6 revenues arising from that patent or, for that  
7 matter, upfront payments. And, indeed, that was...

8 I also receive income from a patent  
9 on humanising antibodies. And that process  
10 attempted to define for each patent the licensing  
11 revenue that was being obtained directly by the  
12 Medical Research Council.

13 So, in that case, each patent is  
14 relatively isolated. If you look at each patent on  
15 its merits, you say, "This amount of revenue is  
16 coming in for that particular patent."

17 With Cambridge Antibody, we had the  
18 problem that the patents were licensed as a block,  
19 and, indeed, were also...

20 So there were licensed blocks  
21 whenever we had to do some attribution of the  
22 values of those patents at the time they were  
23 licensed to Cambridge Antibody. And I think the  
24 view that was taken was that, in respect of equity  
25 sales of MRC -- sorry, the sale of MRC shares in

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1 Cambridge Antibody, that the value or the  
2 percentage should be based on the perception of  
3 those patents at the time that they passed to  
4 Cambridge Antibody Technology. In other words,  
5 Cambridge Antibody's perceived value.

6 And I think, at that stage,  
7 Cambridge Antibody saw really the phage and the  
8 repertoire patent as being the major components,  
9 and the others were desirable.

10 I think the anti-self patent at that  
11 stage seemed to be important, but not as important  
12 as the other two.

13 At a later point we were obviously  
14 going to have to confront the issue of -- you have  
15 to remember that many of these were patent  
16 applications; we didn't know in exactly what form  
17 they'd be granted. But, nevertheless, a value had  
18 been attributed of that block of intellectual  
19 property at the time the agreement with the Medical  
20 Research Council was signed. And I think the key  
21 date was taken to be before floatation because, at  
22 that point, the MRC received -- essentially passed  
23 over a whole block of intellectual property and, in  
24 return, had its shareholding taken to about 10 per  
25 cent of the value of Cambridge Antibody

1 royalty income.

2 Q Did your initial work also attempt  
3 to ascribe relative contribution of inventors on  
4 given patents?

5 A Yes, it did.

6 Q Did you do so expressly as it  
7 relates to the McCafferty phage display patent?

8 A The phage display patents, you mean  
9 the family of those?

10 Q Yes.

11 A We didn't break it down into whether  
12 it was single chain Fv or fab or VH domain or  
13 whatever.

14 Yes, we did, but I should comment  
15 that the MRC was only concerned with those people  
16 who were MRC employees.

17 As the result of an agreement  
18 between Cambridge Antibody Technology and the MRC,  
19 essentially the MRC did not compensate John  
20 McCafferty. So John McCafferty, in fact, was  
21 compensated within the company, Cambridge Antibody  
22 Technology, for the contribution he'd made to the  
23 early success of the company, by issue of further  
24 equity.

25 He had felt that his initial issue

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1 Technology. Previously it had been about 4 per  
2 cent.

3 So we have not yet dealt with the...  
4 So far as I'm aware, we haven't got royalty income  
5 at the moment. I say "we"; Cambridge Antibody  
6 Technology doesn't have royalty income. And the  
7 MRC, therefore, doesn't have a corresponding  
8 fraction of that. We don't yet know which of the  
9 patents are seen by the market to be the most  
10 important, and that's a question that will have to  
11 be revisited. The MRC is going to have to work out  
12 how it wishes to deal with royalty income when,  
13 maybe, some patents now, with the efflux of time,  
14 appear to be much more important.

15 Q To your understanding, there exists  
16 at the MRC some kind of a formula that permits  
17 distribution in the event that royalty income is  
18 received. To your understanding, there is some  
19 kind of a formula?

20 A No, I don't have that understanding.  
21 I have the understanding that -- or certainly what  
22 I had suggested was that the matter would have to  
23 be revisited with royalty income arose, and to see  
24 which patents were actually involved, so far as the  
25 MRC could determine, in the generation of that

1 of equity had been rather low and that, as a result  
2 of his invention, he should be compensated  
3 further. At some level we agreed with that and, in  
4 fact, we compensated him generously.

5 So the MRC felt that, of its awards  
6 to inventors scheme, it was not quite correct to  
7 say McCafferty, as he was a company employee and,  
8 in any case, the company had taken care of him.

9 MR SKILTON: Counsel, we will be  
10 requesting the documents that have been described  
11 by this witness.

12 May we take five minutes?

13 VIDEOGRAPHER: We're going off the  
14 record. The time is 1543(sic).

15 (A short recess at 4.43 pm)

16 (Resumed at 4.55 pm)

17 VIDEOGRAPHER: We are back on the  
18 record. The time is 1555(sic).

19 BY MR SKILTON:

20 Q Dr Winter, earlier I asked you some  
21 questions about George Smith, and I think you  
22 indicated you had never met him?

23 A As far as I know I've never met him.

24 Q Is it also true that you never heard  
25 him present in any context?

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1 A I'm quite confident I've never heard  
2 him present.  
3 Q Do you know whether anyone at CAT  
4 has ever heard Dr Smith present on the issue of  
5 phage display?  
6 A To the best of my recollection,  
7 I don't think anyone had heard Smith talk about  
8 phage display. You mean phage display of anything?  
9 Q Anything. Phage display? Short  
10 peptides?  
11 A I simply -- I don't remember anyone  
12 commenting to me that they'd heard him.  
13 Q And that would be true concerning  
14 MRC as well?  
15 A You mean MRC inventors?  
16 Q Yes. Anyone at MRC, that you're  
17 aware of?  
18 A Oh, that I'm aware of?  
19 Q Yes.  
20 A Look, I haven't a clue. I'd have to  
21 think about it. Anyone at the MRC is a huge volume  
22 of people.  
23 Q Right. I'm asking in terms of your  
24 knowledge, realising that if it didn't come to you  
25 you wouldn't know about it.

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1 A Well, not necessarily. I mean, you  
2 know, it could be that someone from the MRC may  
3 have gone to see it and I might have heard about it  
4 but I don't remember it now. But certainly I have  
5 no specific recollection, at this moment, without  
6 any further prompting, of anyone from the MRC going  
7 to hear Smith. But they must have done because,  
8 you know, Smith is around there, and there's people  
9 have heard Smith or met Smith, but I don't  
10 specifically remember specifics.  
11 Q Just to finish this off. With  
12 respect to Chiswell, do you know whether or not he  
13 ever heard Smith talk?  
14 A I don't know.  
15 Q And with respect to McCafferty, the  
16 same question?  
17 A The same answer.  
18 Q Let's go to Dr McCafferty's work in  
19 your lab before CAT had its open lab.  
20 You mentioned in your earlier  
21 testimony there was an oral agreement concerning  
22 intellectual property. Did I hear you correctly,  
23 with McCafferty?  
24 MR VEZEAU: With McCafferty? Or  
25 with CAT?

1 MR SKILTON: As it relates to the  
2 work of McCafferty.  
3 MR VEZEAU: But agreement with  
4 whom?  
5 MR SKILTON: Let's break it down.  
6 BY MR SKILTON:  
7 Q Was there an agreement with  
8 McCafferty directly that you're aware of?  
9 A There was an agreement, the  
10 visitors' form. The MRC visitors' form, I believe,  
11 specifies that it's up to the Medical Research --  
12 that, to the extent that McCafferty has any rights,  
13 that the MRC will compensate him according to the  
14 awards to inventors scheme. I believe that's what  
15 it states.  
16 Q Does that require him to list -- I'm  
17 sorry.  
18 A And it will deal with his employer,  
19 to the extent that the employer has any rights.  
20 That is what I understand. I don't have the  
21 detailed wording here, but that's the intention.  
22 Q That means, does it not, that  
23 McCafferty, if he's to invent anything while in the  
24 MRC lab, is to assign the rights to that to the  
25 MRC?

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1 MR VEZEAU: Objection. First of  
2 all, that calls for a legal conclusion from this  
3 witness. Secondly, that lacks foundation in fact  
4 or in law, particularly UK law.  
5 MR SKILTON: (To the witness) Do  
6 you know?  
7 THE WITNESS: Can you repeat the  
8 question again?  
9 COURT REPORTER: "Q. That means,  
10 does it not, that McCafferty, if he's to invent  
11 anything while in the MRC lab, is to assign the  
12 rights to that to the MRC?"  
13 THE WITNESS: I'd have to see the  
14 form to remind myself exactly what it's saying, but  
15 my understanding was what I've given you earlier.  
16 BY MR SKILTON:  
17 Q The form controls that question, to  
18 the best of your knowledge?  
19 MR VEZEAU: Objection.  
20 THE WITNESS: The form controls --  
21 MR VEZEAU: Excuse me just a second.  
22 Lack of foundation for the same reasons I stated  
23 previously.  
24 THE WITNESS: I don't understand  
25 exactly what's going on here between the lawyers,

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1 but my understanding is that it depends really who  
2 else is involved in it. Obviously there were  
3 discussions going on with David Chiswell at that  
4 time, so that I think that -- I don't think we had  
5 any understanding that, if McCafferty discovered  
6 something in the lab, that it all passed to the  
7 MRC. I think that we were clearly of the view that  
8 (1) his employer had rights and (2) that David  
9 Chiswell was a part of that process. So I don't  
10 think that we could -- and was intimately involved  
11 in the experiments that McCafferty was doing.

12 BY MR SKILTON:

13 Q Was there any oral agreement other  
14 than the form 7 issue that you've earlier testified  
15 to?

16 MR VEZEAU: First of all, John,  
17 there's no form 7, and if you have a form that's  
18 not --

19 MR SKILTON: I don't have a form.  
20 It's not here. It was referred to in a document  
21 that you produced.

22 MR VEZEAU: It's a form Y.

23 MR SKILTON: Thank you.

24 MR VEZEAU: And a form Y would not  
25 be in the oral agreement. Dr Winter has discussed

1 Q Can you answer that question?

2 A Well, again, I'm not quite sure  
3 exactly what the question means. To whom  
4 McCafferty would assign his rights?

5 Q Under the oral agreement.

6 A Under the oral agreement?

7 Q Yes.

8 MR VEZEAU: Objection. Lack of  
9 foundation.

10 THE WITNESS: I simply don't know  
11 what the detailed technicality would be. That's  
12 law and I guess patent law as well. But I think  
13 I've indicated the agreement that we had, it  
14 related to the body of any IP being produced, would  
15 be if the respective parties, that is Chiswell and  
16 -- sorry, start again.

17 If McCafferty came up with something  
18 in the lab. In other words, let's suppose Chiswell  
19 hadn't got any involvement in at all. If  
20 McCafferty had come up with something in the lab,  
21 and let's suppose Chiswell hadn't made any  
22 inventive contribution whatsoever, then that would  
23 be jointly owned by MRC and Cambridge Antibody  
24 Technology. So that was the understanding. Things  
25 arising from McCafferty's work in the laboratory

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1 an oral agreement between MRC and CAT.

2 BY MR SKILTON:

3 Q What was that oral agreement,  
4 Dr Winter?

5 MR VEZEAU: Objection. Asked and  
6 answered.

7 BY MR SKILTON:

8 Q What was that oral agreement?

9 A Sorry, the oral agreement between  
10 MRC and Cambridge Antibody? Is that what mean? Or  
11 are you --

12 Q Yes, what was that agreement?

13 A Right. My recollection of that is  
14 that the agreement related to the work emerging  
15 from John McCafferty. There was an understanding  
16 that, to the extent that both parties were involved  
17 in it, that both would get any commercial benefits  
18 from it, and that the thing was seen as a joint  
19 collaboration between the two.

20 Q To whom would McCafferty assign his  
21 rights?

22 MR VEZEAU: Objection. Again that's  
23 calling for a legal conclusion from this witness.  
24 He's not a lawyer.

25 BY MR SKILTON:

1 would be jointly owned.

2 What emerged was that Chiswell also  
3 made a contribution to the particular phage display  
4 project, so that consolidated that understanding.

5 BY MR SKILTON:

6 Q Was the agreement that you are  
7 describing here one which required assignment,  
8 then, of anything developed to both entities?

9 A I simply don't remember the  
10 technicalities of it. As far as we were concerned,  
11 we were discussing the outcome of anything that  
12 McCafferty would do in the laboratory and the fact  
13 that that would be shared by the two parties or  
14 jointly owned by the two parties.

15 Q Do you have knowledge as to whether  
16 or not this question of assignment of rights or  
17 ownership was one that was investigated by Sean  
18 Walton?

19 A I have no idea.

20 Q Or Ian Armitage?

21 A I don't know.

22 Q Is it correct to say that, as you  
23 sit here today, you simply do not have knowledge of  
24 what legal obligation John McCafferty would have to  
25 assign any invention made in the MRC lab during



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1 this period where he was covered by an oral  
2 agreement to either Cambridge or the MRC?

3 A That question is quite a complicated  
4 question, but John McCafferty... There was  
5 a written agreement relating to John McCafferty's  
6 rights, such as he personally may have, which  
7 I have mentioned already on the form Y.

8 Q Form Y?

9 A Which he agreed, as far as  
10 I recollect, from that form that -- it's a fairly  
11 standard form -- to assign such rights as he may  
12 have personally to the MRC for work that was being  
13 undertaken in that laboratory.

14 MR SKILTON: Counsel, if it's  
15 possible, I would like to have that form Y  
16 available to me when I question Dr Chiswell  
17 tomorrow.

18 MR VEZEAU: It probably is not going  
19 to be possible.

20 MR SKILTON: Because?

21 MR VEZEAU: Because it won't be  
22 possible.

23 MR SKILTON: We're in England.  
24 Dr Chiswell comes tomorrow.

25 BY MR SKILTON:

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1 Q Where do you understand this form Y  
2 to be housed, Dr Winter?

3 A I don't know. The form Y we  
4 certainly got signed because Sir Aaron Clug was  
5 very keen that that was done before McCafferty came  
6 into the laboratory.

7 Q Do you have knowledge as to whether  
8 or not the MRC inventors, that are listed on the  
9 108 patent, were required to assign to the MRC?

10 A Sorry, were required or did?

11 Q Well, first let's talk about the  
12 question as asked. Were required?

13 MR VEZEAU: I'm going to object to  
14 that because I think it calls on Dr Winter, of  
15 course an eminent scientist, to draw legal  
16 conclusions, and I don't think he's qualified to do  
17 that, in answering this question.

18 BY MR SKILTON:

19 Q Do you know the answer to that  
20 question?

21 MR VEZEAU: Do you want to hear the  
22 question again?

23 THE WITNESS: Yes, please. Thank  
24 you.

25 MR VEZEAU: Thelma, you're up.

1 COURT REPORTER: "Q. Do you have  
2 knowledge as to whether or not the MRC inventors,  
3 that are listed on the 108 patent, were required to  
4 assign to the MRC?"

5 THE WITNESS: I believe all of them  
6 signed form Y, but what the conclusion of form Y  
7 is, I don't know.

8 I had assumed that this would mean  
9 that they should assign their inventions to the  
10 Medical Research Council, but I don't know whether  
11 -- to what extent that was a requirement or not.

12 MR SKILTON: All right.

13 Counsel, I'll conclude, then, the  
14 examination with a request that, before Dr Chiswell  
15 in particular, so I may have a witness to question  
16 on these documents, that the form Ys for all the  
17 MRC inventors be produced.

18 MR VEZEAU: Since Dr Chiswell is  
19 going tomorrow, that will not be possible. I can  
20 tell you that.

21 And also, with respect to  
22 Dr McCafferty, we with check with CAT. CAT does  
23 not have a copy of form Y. So that's why I'm  
24 telling you we cannot produce that tomorrow.

25 BY MR SKILTON:

1 Q Are the form Ys MRC documents?

2 A The form Y is an MRC document.

3 MR SKILTON: I would request that  
4 MRC, which is I believe a party to this litigation  
5 --

6 MR VEZEAU: The MRC is not, at your  
7 insistence. We attempted to do so and we brought  
8 that to the court's attention, and you were opposed  
9 to that, if you will recall, John --

10 MR SKILTON: I think we are mixing  
11 our cases right now, but let's not argue about it.

12 MR VEZEAU: I don't believe so.

13 MR SKILTON: I think we are.  
14 I think you are but...

15 MR VEZEAU: I think you forget the  
16 motion we filed on that point, which you opposed.

17 MR SKILTON: But, in any event,  
18 I ask that those forms be requested of MRC and  
19 produced while we are in England.

20 MR VEZEAU: I have already told you  
21 that will not be possible. My statement stands.  
22 Are you through?

23 MR SKILTON: Yes.

24 MR VEZEAU: Dr Winter, we thank  
25 you. This has been a long day, and we appreciate

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1 you taking time out of your schedule to appear  
2 here.

3 For that reason, I am not going to  
4 ask you questions at this time, but simply ask  
5 that, when Thelma produces her flawless copy of the  
6 transcript of your deposition, that you review it,  
7 make any corrections that you believe should be  
8 made, and sign it. But you need not appear in  
9 front of a notary; we've agreed to waive signature  
10 in front of a notary.

11 THE WITNESS: Thank you very much.

12 MR SKILTON: Thank you, Dr Winter.

13 THE WITNESS: Thank you.

14 MR VEZEAU: And also on the record  
15 I want to designate the transcript of this  
16 testimony, and the videotapes, as highly  
17 confidential under our protective order.

18 VIDEOGRAPHER: This concludes the  
19 deposition of Dr Greg Winter. The number of tapes  
20 used was three. We're going off the record. The  
21 time is 1612(sic).

22 (Deposition concluded at 5.12 pm)  
23  
24  
25

1 I, Dr Gregory Paul Winter, am the  
2 deponent in the foregoing deposition. I have read  
3 the foregoing deposition and, having made such  
4 changes and corrections as I desired, I certify  
5 that the transcript is a true and accurate record  
6 of my responses to the questions put to me on  
7 Monday, 29th April 2002.

8  
9 Signed

10 GREGORY PAUL WINTER, PhD  
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25 Signature Date

1 CERTIFICATE OF COURT REPORTER  
2 I, Thelma Harries, Accredited  
3 Court Reporter, Member of the British Institute of  
4 Verbatim Reporters, do hereby certify that I took  
5 the stenotype notes of the foregoing deposition,  
6 and that the transcript thereof is a true and  
7 accurate record transcribed to the best of my skill  
8 and ability.  
9 I further certify that I am  
10 neither counsel for, related to, nor employed by  
11 any of the parties to the action in which this  
12 deposition was taken, and that I am not a relative  
13 or employee of any attorney or counsel employed by  
14 the parties hereto, nor financially or otherwise  
15 interested in the outcome of the action.

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21  
22 THELMA HARRIES, MBIVR, ACR  
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## CondenseIt™

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## CondensIt™

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